STRENGTHENING SUSTAINABLE ECOTOURISM IN AND AROUND NYUNGWE NATIONAL PARK (SSENNP) "NYUNGWE NZIZA"

NYUNGWE NATIONAL PARK VISITOR IMPACT MONITORING MANUAL

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Cover image: Installing gabion retaining walls on the Waterfall Trail

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ABBREVIATIONS

DAI	Development Alternatives Inc.
LAC	Limits of Acceptable Change
NNP	Nyungwe National Park
RDB	Rwanda Development Board
SSENNP	Strengthening Sustainable Ecotourism in and around Nyungwe National Park
TMZ	Tourism Management Zone
TW	Training Warden
USAID	United States Agency for International Development
WCS	Wildlife Conservation Society

1 INTRODUCTION

This manual describes the indicators used in Nyungwe National Park (NNP) to monitor visitor impacts and prescribes standardized procedures for measuring and reporting on those indicators. The indicators in this manual are part of the Limits of Acceptable Change (LAC) framework for NNP. Under the LAC framework, the park has identified seven Tourism Management Zones:

- Nature Walk
- Bird Watching
- Trekking
- Engineered Attractions
- Primate Tracking
- Motorized Sightseeing
- Developed

Descriptions of each of these zones are presented in Appendix A of this Manual.

The park has identified 13 general LAC indicators (Table 1). These are described as "general indicators" because some of them (such as Trail Condition, User-Made Trails, Campsite Condition, Encounters with Target and Visitor Satisfaction) are evaluated by measuring several indicators. A list of all of the general indicators with their associated specific indicators and units of measurement are presented in Table 2. In total the NNP visitor impact monitoring program has 29 indicators (shown in the "Specific Indicators" column of Table 2) that are collected via seven tools (shown in the "Source of Information" column of Table 1).

Table 1: General visitor impact indicators and their allocation to Tourism Management Zones

General Indicators	Source of Information	Tourism Management Zones						
		Nature Walk	Bird Watching	Trekking	Engineered Attractions	Primate Tracking	Motorized Sightseeing	Developed
Resource Indicators								
Trail Condition	Annual Trail Inventory	✓	✓	✓	✓	✓		✓*
Campsite Condition	Annual Campsite Inspection			✓				
User-Made Trails	User-Made Trail Inventory						✓	✓
Primate Counts	Guide Report Form	✓		✓	✓			
Endemic Bird Counts	Guide Report Form		✓					
Encounters with Target Primates	Guide Report Form					✓		
Exotic Plant Species	Annual inventory							✓
Social Indicators								
Group Size	Guide Report Form	✓	✓	✓	✓	✓		
Human Encounters	Guide Report Form	✓	✓	✓	✓	✓		

General Indicators	Source of Information	Tourism Management Zones						
		Nature Walk	Bird Watching	Trekking	Engineered Attractions	Primate Tracking	Motorized Sightseeing	Developed
Availability of Information	Visitor Feedback Form	✓	✓	✓	✓	✓		✓
User Satisfaction	Visitor Feedback Form	✓	✓	✓	✓	✓		
Litter	Monthly Inspection	✓	✓	✓	✓	✓	✓	✓
Condition of Structures	Monthly Inspection				✓		✓	✓

Notes:
*Only for those areas in the Developed Zone that have unpaved trails greater than 100 meters in length.

The NNP visitor impact indicators were selected at a series of workshops and meetings held at Gisakura, Rwanda on April 16-26, 2012. Several NNP staff as well as representatives from Wildlife Conservation Society (WCS), Nyungwe Top View Hill Hotel and Nyungwe Forest Lodge participated in all or some of the events during that period. See Appendix B for a full list of participants. The workshop and subsequent meetings were facilitated by Lane Krahl, an environmental consultant working with the Strengthening Sustainable Ecotourism in and around Nyungwe National Park (SSENNP) project, a project funded by the United States Agency for International Development (USAID) and implemented by Development Alternatives Inc. (DAI).

Table 2: General indicators with associated specific indicators and units of measurement

General Indicator	Specific Indicator	Unit
Trail Condition	Width	# of Sites/km
	Water in Trail	
	Muddy Area	
	Visible Erosion	
	Landslide	# of Large Sites/km
	Vegetative Encroachment	# of Sites/km
	Exposed Roots	
	Structure in Need of Repair	
	Litter	# of Pieces/km
Campsite Condition	Structures	#/Campsite
	Structures in Need of Repair	# of Incidents/Campsite
	Unburied Human Waste	
	Litter	# of Pieces/Campsite
User-Made Trail Inventory	Number	# of trails/High Probability Site
	Condition Class (1-5) of Each	# of trails/Condition Class/ High Probability Site
Group Size	People	People/Group
Human Encounters	Other Groups	# Other Group/Activity
	Park Staff, Trail Workers, Researchers	#/Activity

General Indicator	Specific Indicator	Unit
Availability of Information	Quality of Material	# of Respondents by Rating (Excellent, Good, Fair or Poor)
User Satisfaction	Quality of Activity	
	Quality of Guide	
Primate Counts	Species	# of Species Observed/Activity
Endemic Bird Counts	Species	# of Species Observed/Activity
Encounters with Target Primates	Encounters	# of Encounters/Activity
	Individual Animals	# of Individuals/Encounter
	Habituation	Level of Habituation/Encounter
Litter, non-campsite	Litter	kg/Zoned Area/Inspection
Condition of Structures	Cleanliness	# of Incidents/Zoned Area
	Needs Repair	

This manual presents the seven data collection tools that are used to collect data on the indicators of visitor impact, and provides the forms and protocols for using each tool. It is organized in the same order as the "Source of Information" column in Table 1. Each section presents the specific materials and field procedures and reporting requirements for monitoring each indicator. Each section also contains the form that is to be used for collecting and reporting data. These procedures are for monitoring visitor impact as part of the LAC framework for NNP, and they do not replace any routine trail management inspections (e.g., inspections after heavy rains)."

2 TRAIL CONDITION

What: A census of 9 indicators of trail condition:

- Width
- Vegetative Encroachment
- Water in Trail
- Muddiness
- Structure in Need of Repair
- Exposed Roots
- Landslide
- Visible Erosion
- Litter

Where: Every trail in the Nature Walk, Bird Watching, Trekking, Engineered Attraction, and Primate Tracking Zones and every unpaved trail greater than 100 meters in length in the Developed Zones

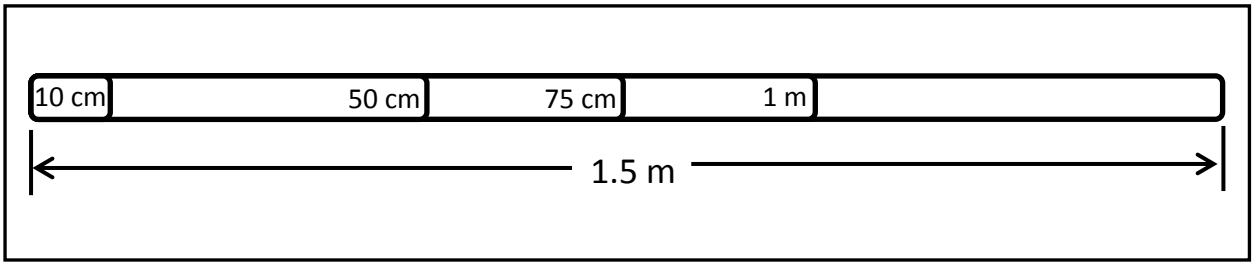
When: Once per year after the highest use period (September)

Trail condition is determined by an annual inspection of 100 percent of the trails in the park using a problem assessment approach, whereby a census of specific, defined problems is noted for the total length of each trail.

2.1 MATERIALS

- Trail Condition Field Form
- Clip board
- Pencils
- Wooden walking stick cut to 1.5 meters with marks on it at 10 centimeters, 50 centimeters, 75 cm, and 1 meter (Figure 1)
- Handheld GPS unit
- Litter bag
- Measuring wheel in meters (for first-time inspections only)
- Appropriate field clothing and shoes
- Umbrella (to hold over clipboard while writing, if it may rain during inspection)

Figure 1: Calibrated wooden walking stick for trail inspection



2.2 FIELD PROCEDURES AND REPORTING REQUIREMENTS

2.2.1 Determine "meters per pace"

During the trail inspection, you will be measuring problems using your pace. Therefore, before you do any inspections it is important that you know how many meters you cover per your walking pace. A walking pace is the distance from where a foot leaves the ground to where it next strikes the ground. Walking pace should be determined every year before inspections begin.

To measure your "meters per pace," lay 8 meters of a tape measure out on relatively flat ground, marking a starting line at the beginning of the tape and an end line at 8 meters. Put your toes on the start line and begin walking, taking the first step with your left foot and counting each time your right foot hits the ground. You should walk at a relaxed, natural gate, as if you were walking on a trail. Continue walking until your toe on either foot hits nearest the 8 meter line. If it is your right foot, record it as a full pace. If it is your left foot, record it as ½ pace. Record the number of paces or paces-and-a-half that it took you to cover 8 meters.[1] (Most people will cover this distance in 4 to 5½ paces.) Repeat the procedure several times (at least 4) and calculate an average value. Now, divide 8 by your average value and the result will by your "meters per pace." Write your meters per pace down somewhere so you will not forget it.

2.2.2 Gather the Necessary Materials

Before leaving for an inspection, be sure you have all of the materials necessary for conducting the inspection, as identified in section 2.1 above.

2.2.3 Fill in the Preliminary Information on the Trail Condition Field Form

Before leaving for an inspection, fill in the following sections of the Trail Condition Field Form, a copy of which is included in this Manual at the end of this section.

Trail Name

Enter the official name of the trail being inspected. Some trails have more than one name (e.g., the Igishigishigi trail was previously called Green trail). The official names of trails are established in the table, "Trail Names and Lengths" prepared by the Tourism Warden in Kitabi on January 1, 2010. The official names are:

- Ngabwe Trail
  - Rutovu Trail
  - Rukungu Trail
  - Mwumba Trail
- Buhoro Trail
- Igishigishigi Trail
- Kamiranzovu Trail
- Isumo Trail
- Umugote Trail
- Congo Nile Divide Trail
- Uwinka Trail
- Canopy Walk Trail
- Imbaraga Trail
- Karamba Trail
- Bigugu Trail
- Muzimu Trail
- Irebero Trail
- Rukuzi Trail
- Umuyove Trail
- Rukuzi

[1] If you are more comfortable starting with your right foot and counting with your left, that is fine. In that case, at the eight meter mark your left foot will be whole paces and your right foot will be half paces.

If you are not sure of the official name of the trail you will be inspecting, you should consult the table referenced above, which is posted at the park reception offices. More trails may be added to this list by the Tourism Warden, so you should also consult with him or her.

Date of Inspection

Enter the date of the inspection is being conducted in the format of 2-number day – 2-number month – 4-number year (e.g., enter "05-04-2012" for April 5, 2012).

Lead Inspector

Write the name of the person who is responsible for the information on the form (i.e., the person to be contacted if there are any questions about the data on the form).

Description of Trailhead and Description of End Point.

If this is the first-time the trail will be inspected, you should consult with the Tourism Warden to determine where the trailhead and end point may be for the purposes of visitor impact monitoring. You must confirm those locations in the field, so you should wait to complete these sections of the form at the trailhead and at the end point, per the protocol in sections 2.2.4 and 2.2.5.

If this is a re-inspection, you should copy onto the form the description of the trailhead and end point from the previous year's inspection form. To determine changes in trail conditions, it is important that re-inspections be done for the same trail segments as previous inspections. As described below in sections 2.2.4 and 2.2.5, trailheads and end points for trails during visitor impact monitoring may be quite different than those for a visitor activity. This is due to the need to avoid duplicate inspections of trails that share common routes.

If you believe that park conditions have changed in such a way that the previous trailhead description is incorrect (a trail has been relocated, a new engineered attraction has been built, etc.), you should consult with the Tourism Warden before making any change in the trailhead location.

Meters per pace

Record the meters per pace for the person who will be responsible for pacing the length of problems. If more than one person is participating in the inspection, it is important that only one person does the pacing and that the meters per pace for that person's is recorded on the form.

Name of person pacing

Fill in the name of the person doing the pacing, even if it is the same as the Lead Inspector. This will help avoid any confusion during data entry.

2.2.4 Walk to the Trailhead

If this is a re-inspection, you should walk to the point that you wrote on your form before leaving for the inspection. You should make no notations on the form until you reach the trailhead described on the form.

If this is a first-time inspection you should be guided by the conversation you had with the Tourism Warden as to where the trailhead may be (in subsection 2.2.3), but you will make the final decision in the field. Here are some guidelines:

- For trails which do not share sections with other trails, the trailhead will be the place within the park boundaries where you begin to walk the trail with visitors (i.e., do not include access trails outside of the park that you may walk with the visitors, but for which the park is not responsible).

- For trails which do not share sections with other trails and are accessed by a road inside the park (paved or unpaved), the trailhead begins where the trail departs from the road.

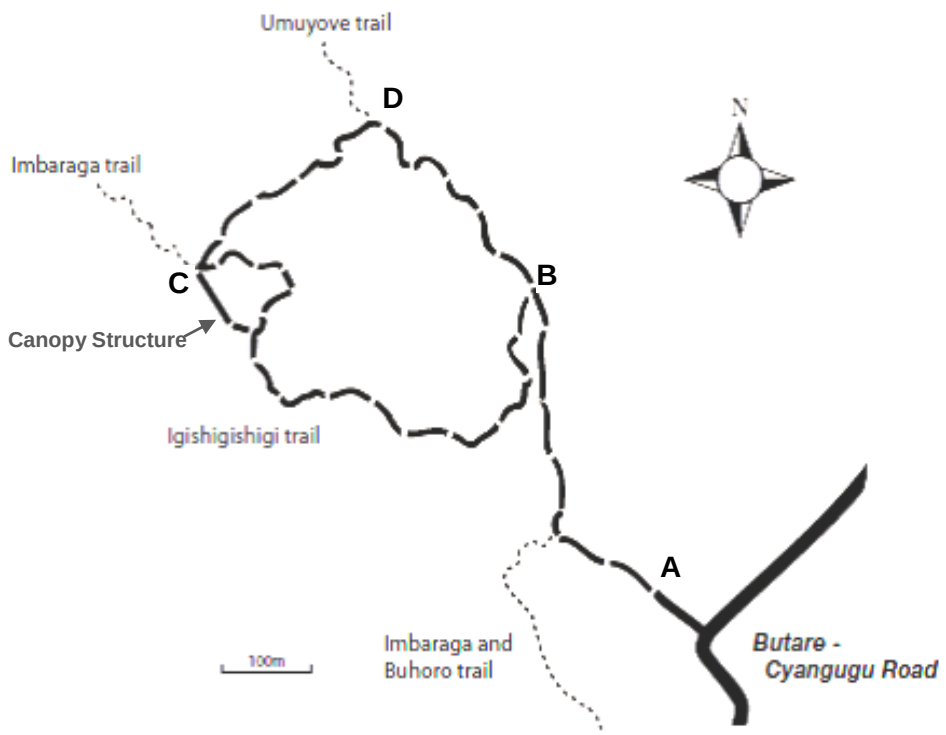
- For trails that do share sections with other trails, the determination of trailhead and end point is more complicated. For visitor impact monitoring purposes we only want to inspect each section of trail one time. This means that for trails that share sections of trail, their trailheads and end points may be quite different from where you begin and end a visitor activity.

  For instance, the Igishigishigi Trail is not even included in the visitor monitoring program. This is because the trail from the visitor center to the end of the Canopy Walk (from points A to B to C in Figure 2) will be inspected for the Canopy Walk Trail and the remainder of the trail (from points B to D to C) will be inspected for the Imbaraga Trail.

  The trailhead for the Umuyove Trail will be at the point where it separates from the Igishigishigi Trail (point D in Figure 2), not from the Visitor Center, where a hike on the Umuyove Trail begins. There are several other trails in the park which have similar shared trail characteristics (e.g., Buhoro, Iberero and Imbaraga trails; Uwinka and Imbaraga trails; and Uwinka and Kamiranzovu trails).

  Careful planning and field confirmation will be necessary to determine trailhead and end point locations for shared trails, so as to avoid duplicate inspections.

Figure 2: Trailhead determination example



For Visitor Impact Monitoring Purposes:

Canopy Trail is from point A (Visitor Center) to B to C, with A being the Trailhead and C being the End Point

Imbaraga Trail is from point B to D to C to the remainder of the trail, with B being the Trailhead

Umyove Trail Trailhead is point D

Igishigishigi Trail is not inspected as a separate trail, as its entire length is covered by other inspections

Once you have field verified the location of the trailhead, you should write a description of where it is located in the space provide on the form (e.g., "At the point where the Umuyove Trail branches off of the Igishigishigi Trail"). You should also take a GPS reading for the trailhead and record it in the space provided on the form.

2.2.5 Determine a Preliminary Trail Ending Point

Before beginning the inspection, make a preliminary determination of the end point. It is important to think about the end point before you begin, so you do not accidentally measure a segment of the trail twice during the inspection. If this is a re-inspection, then this involves just reading the end point description that you wrote down before you left the reception area.

If this is a first-time inspection you should be guided by the conversation you had with the Tourism Warden as to where the end point may be (in subsection 2.2.3). Use the following guidelines for determining end point:

- For trails that do not share sections with other trails:

- If you are on an "out and back" trail, one which you hike out and back on the same trail (e.g., Bigugu Trail), the end point will be where the trail ends and you turn around to head back to the trailhead.

- If you are on a "one-way" trail, one which you hike from the trailhead to another point where you will have transport or will walk the road back to where you started (e.g., Ngabwe Trail, Congo-Nile Divide Trail), the end point will be where the trail meets the road (paved or unpaved).

- Many loop trails are not true loops, but have a segment at the beginning and end that provide access to the loop. In these cases, the end point will be where the trail joins back up with itself (i.e., do not count the access portion twice).

- The major exceptions to all of the above are trails that share a segment with other trails. In these cases, the end point of the trail for visitor monitoring purposes is where it joins up with a trail section that is monitored under another trail name (see discussion in subsection 2.2.4). For instance, the end point of the Uwinka Trail would be where it joins the Kamiranzovu Trail. As with trailhead location, determining end points for these trails takes careful planning and field confirmation.

2.2.6 Walk from the Trailhead to the Trail End Point, Completing the Trail Condition Field Form

You are now ready to begin walking the trail and recording data on the Trail Condition Field Form. A copy of the form is presented at the end of this section. If this is a first-time inspection, you should have a measuring wheel in meters with you. Set the counter on the measuring wheel to 0 at the trailhead.

Now begin to walk the trail, using the following protocol:

1. Walk until you encounter a problem, as listed on the form and defined below.

2. When you encounter the first problem, you stop and:

    a. Mark the problem in the appropriate column on the first row of the form. (Definitions and procedures for marking each type of problem are in the subsections below.)

    b. Take and record a GPS longitude and latitude reading. If you cannot get a reading at the location of the problem, walk up or down the trail to the nearest point on the trail where you can get a reading. Record the reading and write a note in the "Descriptive Location" column indicating where the reading was taken, indicating the distance and direction of the alternative reading (e.g., "GPS reading taken 10 meters towards trailhead).

    c. Write a brief description of where the problem is located for use by trail crews. The description should include some known reference to the location as well as a nearby

landmark that would help the crew locate the problem (e.g., "Near a former mist netting area and next to a dead *Parinari excelsa* tree" or "Near the big Umgote tree after the second bench on the trail").

d. For Litter, put the piece of litter in the litter bag and place a hash mark in the litter tally box. Litter tallies require no description of location.

After recording the required information (identified below), move on until you encounter the next problem and repeat the process described in 2.a through 2.d above. Continue doing this procedure until you reach the end point of the trail.

Following are the descriptions and protocols for each type of problem.

Width

Tally all incidents where the tread width is greater than 1.5 meters for a distance greater than 4 meters. Use the calibrated walking stick to make both of these measurements.

Tread is the trampled part of the trail where visitors have walked. Often it is cleared of vegetation and slightly lower than the surrounding ground level. The trail crews may have cleared beyond the tread width. Do not include these cleared areas in the tread width determination if there is no visual evidence that people are regularly walking in these areas.

Width requires an estimate of the length of the problem. Make your estimate by pacing the length and writing the resulting number of paces (to the nearest half-pace) in the "Estimated Length in Paces" column.

Vegetative Encroachment

Tally all incidents where vegetation (small branches and stems and associated leaves) is encroaching on the trail to the extent that the passage narrows to less than 0.5 meters, or where overhead vegetation is low enough to cause visitors to duck or move to the other side of the trail to avoid the vegetation. Use the calibrated walking stick to make the measurement of passage width. Vegetative Encroachment does not require a length estimate.

Water in Trail

Tally all incidents where water is flowing down the trail for a length greater than 1 meter. Tally all incidents of standing water in the trail with a length greater than 75 centimeters that has visible evidence of off-tread avoidance by users (i.e., evidence that visitors are stepping off the original constructed trail tread to avoid stepping in the water). Use the calibrated walking stick to make the length measurements.

Omit temporary shallow puddles created from a recent rain. The objective is to include only tread segments that are frequently wet enough to divert trail users around the problem, often leading to an expansion of trail width.

Water in Trail requires an estimate of the length of the problem. Make your estimate by pacing the length and writing the resulting number of paces (to the nearest half-pace) in the "Estimated Length in Paces" column.

Muddy Area

Tally all incidents of trail muddy areas that have a length greater than 75 centimeters and visible evidence of off-tread avoidance by users. (i.e., evidence that visitors are stepping off the original constructed trail tread to avoid stepping in the mud). Use the calibrated walking stick to make the length measurement.

Omit temporary muddiness created from a recent rain. The objective is to include only tread segments that are frequently muddy enough to divert trail users around the problem, often leading to an expansion of trail width.

Muddy Area requires an estimate of the length of the problem. Make your estimate by pacing the length and writing the resulting number of paces (to the nearest half-pace) in the "Estimated Length in Paces" column.

Exposed Roots

Tally all incidents where you observe clusters of at least five roots that have been exposed by erosion (not exposed by trail construction) to the point that one-half of their diameter is exposed to the air. Tally by area, that is, record an area where several roots are exposed as one tally, whether that area extends for 0.5 meters or 2 meters. Exposed Roots does not require a length estimate.

Landslide

Tally every landslide that has infringed on the trail as with an "L" indicating the impact is large or an "S" indicating the impact is small. Landslide does not require a length estimate.

Large (L) landslide impacts are those that meet one of the following criteria:

- Located on the uphill side of the trail with debris covering over half of the width of the trail tread.

- Located on the downhill side of the trail, intruding on the trail tread (i.e., part of the tread has actually slipped down the hill) and in the opinion of the inspector(s), more of the trail will slip downhill if trail stabilization is not undertaken.

Small (S) landslide impacts are those that do not meet the criteria for large landslide impacts.

Visible Erosion

Tally all incidents where you observe defined trenching caused by erosion of greater than 10 centimeters in depth or width for a length of greater than 2 meters. Use the calibrated walking stick to make both of these measurements. Do not double count areas that have trenching and flowing water. If water is flowing in the trench, report the area only as Water in Trail.

Often, the trenching may not be continuous, i.e., there may be a short trench (~30cm) followed by an area (~30 cm) with no evident trenching and then another short trench (~30cm), etc. Such areas should be tallied as one Visible Erosion incident, if the combined area measures over 2 meters.

Other times the trenching may express itself as a side of the trail that is more than 10 centimeters lower than the other side of the trail, defined by a distinct "shoulder" between the two sides of the trail. You can lay the calibrated walking stick flat on the higher side of tread and extended across the lower side to determine if the lower side has eroded more than 10 centimeters. In these cases the "trench" may only have one side (at the shoulder), with the other side being the edge of the tread. Situations like this should be counted as Visible Erosion if they extend for more than 2 meters.

Visible Erosion requires an estimate of the length of the problem, so you must determine the starting point and ending point of the visible erosion. Make your estimate of length by pacing from the starting point to the ending point and writing the resulting number of paces (to the nearest half-pace) in the "Estimated Length in Paces" column.

Structure in Need of Repair

Tally each individual structure which you feel is in need of repair. In addition to describing the location of the structure, identify the structure and write a brief description of the needed repair. For example, "Handrail, not attached on end post." Structure in Need of Repair <u>does not</u> require a length estimate.

Trail steps, particularly those made of wood, may present a special case for Structure in Need of Repair. Sometimes only one step is broken or the wood is missing. These incidents are tallied with a simple "✓". But in other cases you may encounter an area where several steps are broken or the wood is missing. In these cases, you should record them on one row, providing one GPS reading and location description, but in place of the "✓" you should count and record the number of steps in need of repair (e.g., record *15* or *45* or however many you count in the general vicinity of the GPS reading).

Litter

You should look for litter on the trail as well as litter off the trail. Each piece you see you should pick up and put in the litter bag. Tally, in the space provided on the form, each individual piece of litter picked up and put in the litter bag during the inspection. Use hash marks in clusters of 5 to tally litter (e.g., ⧵).

Measuring Wheel Procedures

If this is a first time inspection you will be pushing a measuring wheel. Be sure to set the counter at 0 at the trailhead. Push the measuring wheel along the middle of the tread so that it does not bounce or skip in rough terrain. Lift the wheel over logs and larger rocks, adding distance manually where necessary to account for horizontal distances.

2.2.7 Confirm the End Point of the Trail

When you reach the point you had preliminarily identified as the end point, you should confirm whether it is the end point or not. If it is not the end point, then continue until you reach a place that meets the end point requirements given in subsection 2.2.5.

At the end point:

- Take and record a GPS reading.
- Write a description of the end point on the form.

- Count the hash marks for pieces of litter and write the total in the “Total” box attached to the Litter Tally area of the form.
- If this is a first time inspection, record the total length of the trail from trailhead to end point in the space provided on the form.

2.2.8 Return to the Reception Office

Properly dispose of the litter collected in the litter bag. Place the completed Trail Condition Field Form in the “Completed Form” file for data entry. Return any other materials you took with you to their proper location.

Trail Condition Field Form, Nyungwe National Park

Trail Name: _____ Date of Inspection: _____ Lead Inspector: _____

Width	Vegetative Encroachment	Water in Trail	Muddy Area	Structure in Need of Repair*	Exposed Roots	Landslide (L or S)	Visible Erosion	Estimated Length in Paces**	GPS Reading		Descriptive Location (for GPS Readings taken away from the site, include a description of the GPS location) (for Structures in Need of Repair include a brief description of the problem)
									Long.	Lat.	

*Number of individual steps instead of "✓" for sites with multiple steps in need of repair.
**No estimate is necessary for "Vegetative Encroachment" "Structure in Need of Repair" "Exposed Roots" and "Landslide"

Tally the number of pieces of litter here:

Total

Description of Trailhead:_____GPS Long._____Lat._____

Description of End Point:_____GPS Long._____Lat._____

FOR FIRST TIME ONLY: Total trail length from Trailhead to End Point:_____km

Meters per pace:_____meters Name of person pacing:_____

Trail Condition Field Form, Additional Pages Page: ____

Trail Name: _____ Date of Inspection: _____ Lead Inspector: _____

Width	Vegetative Encroachment	Water in Trail	Muddy Areas	Structure in Need of Repair*	Exposed Roots	Landslide (L or S)	Visible Erosion	Estimated Length in Paces**	GPS Reading		Descriptive Location (for GPS Readings taken away from the site, include a description of the GPS location) (for Structures in Need of Repair include a brief description of the problem)
									Long.	Lat.	

*Number of individual steps instead of "✓" for sites with multiple steps in need of repair.
**No estimate is necessary for "Vegetative Encroachment" "Structure in Need of Repair" "Exposed Roots" and "Landslide"

3 CAMPSITE CONDITION

What:	A census of 4 indicators of campsite condition: • Structures • Litter • Structure in Need of Repair • Unburied Human Waste
Where:	Every campsite in a Trekking or Developed Zone
When:	Once per year after the highest use period (September)

Campsite condition is determined by an annual inspection of 100 percent of the campsites in the Trekking and Developed Zones in the park using a problem assessment approach, whereby a census of specific, defined problems is noted for each campsite.

3.1 MATERIALS

- Campsite Condition Field Form
- Clip board
- Pencils
- Litter bag
- Handheld GPS unit
- Compass
- Umbrella (to hold over clipboard while writing, if it may rain during inspection)
- Photocopy of most recent inspection as well as most recent sketch map
-

3.2 FIELD PROCEDURES AND REPORTING REQUIREMENTS

3.2.1 Gather the Necessary Materials

Before leaving for an inspection, be sure you have all of the materials necessary for conducting the inspection, as identified in section 3.1 above. You should photocopy the most recent inspection form as well as the most recent sketch map and take them with you into the field.

3.2.2 Fill in the Preliminary Information on the Campsite Condition Field Form

Before leaving for an inspection, fill in the following sections of the Campsite Condition Field Form, a copy of which is included in this Manual at the end of this section.

Trail Name or Developed Area Name

Check the appropriate box for the type of campsite being inspected: Trekking or Developed Area. For a Trekking campsite, write the official name of the trail on which the campsite is located. The official names of trails found in Trekking Zones are:

- Congo-Nile Divide Trail

- Ngabwe Trail
- Bigugu Trail

If you are not sure of the official name of the trail, you should consult the table, "Trail Names and Lengths" prepared by the Tourism Warden in Kitabi on January 1, 2010, which is posted at the park reception offices.

If you are completing an inspection for a campsite in a Developed Zone, write the name of the Developed Zone.

Campsite Name

Enter the official name of the campsite. If the campsite has been inspected before, enter the name used on the previous inspection, to avoid confusion.

GPS Reading

If this is a first-time inspection, leave this blank until you go into the field. If the campsite has been inspected before, enter the GPS readings from the previous inspection

Date of Inspection

Enter the date of the inspection is being conducted in the format of 2-number day – 2-number month – 4-number year (e.g., enter "05-04-2012" for April 5, 2012).

Lead Inspector

Enter the name of the person who is responsible for the information on the form (i.e., the person to be contacted if there are any questions about the data on the form).

3.2.3 Go to the Campsite

Go to the campsite and take a GPS reading. If this is a first time inspection, record the GPS reading in the space provided on the Inspection Form. If this is a subsequent inspection, check to see if the GPS reading taken at the area is relatively the same as that copied from the previous inspection. If it is significantly different (on the order of hundreds of meters off), you should determine why. Is it because the area is so big and the previous inspector just stood in a different spot inside of the area? Are you in a different area – does the sketch map match what you see? Take your reading again, and make sure you have and accurate reading. If you cannot find a logical reason for a significant difference, write your GPS reading below the one on the form and meet with the Tourism Warden when you return from the inspection to decide how to resolve the discrepancy.

3.2.4 Walk the Entire Area of the Campsite

After you have recorded the GPS reading for the campsite, you should begin by walking the entire area of the campsite. Walk to every structure in the campsite, following every internal trail in the campsite. The purpose of this "walk around" is to familiarize yourself with the campsite; however, during the "walk around" you should also complete the following two sections of the Campsite Condition Field Form:

Litter

You should look for litter in and around the campsite. Each piece you see you should pick up and put in the litter bag. Tally, in the space provided on the form, each individual piece of

litter picked up and put in the litter bag during inspection. Use hash marks in clusters of 5 to tally litter (e.g., ⧵⧵⧵⧵⧵). Leave the "Total" box empty at this point, as you may still encounter more litter as you continue with your inspection of the site.

Unburied Human Waste

You should look in and around the campsite for sites where there is evidence of unburied human waste. Tally, in the space provided on the form, each site you encounter, using hash marks in clusters of 5 (e.g., ⧵⧵⧵⧵⧵). Leave the "Total" box empty at this point, as you may still encounter more sites with unburied human waste as you continue with your inspection of the site.

After you have completed your "walk around," you should fill out the remainder of the Campsite Condition Field Form in the order and following the procedures of the following subsections.

Draw a Sketch Map (if necessary)

If this is an initial inspection, draw a simple sketch map of the campsite at the bottom of the form. Use your compass to determine north, and orient the map so that north is at the top of the form (an arrow indicating north is on the right hand side of the space provided for drawing your sketch map). The purpose of the map is to provide the relative location of every structure listed in the "Structure" table on the form. It is not important that the map be drawn to scale, but it is important that the relative location of each structure is indicated.

If this is a subsequent inspection, use the photocopy of the most recent sketch map that you brought with you, unless you believe that it is incorrect or that there have been changes that need to be added to the sketch map.

Once you have drawn your sketch map, mark each structure on the map with a unique number (1, 2, 3, 4, …). If you are using a previous sketch map, use the same numbers for each structure as were used on the previous map. Then put those numbers in the # column in the Structure Table. Figure 3 provides an example of a sketch map.

Complete the Structure Table

Go to structure #1 and:

1. Write the type of structure that it is in the Type column of the Structure Table. Where possible, use the following types of structures: Bungalow (a covered, open air structure), Bathroom (a structure with a toilet/latrine, sink, and/or shower), Shower (if it is a separate structure from the bathroom), Tent Platform, Bench, and Dust Bin.

2. Determine if the structure needs repair.
   For small structures (dust bin, bench, etc.), a quick assessment is adequate. For larger structures (bungalow, bathroom, etc.) you should take more time and use the following procedures:
   a. Walk around the outer perimeter of the structure, noting any items needing repair on the foundation, exterior floors and walls and, if applicable, the eaves of the structure.
   b. Move to a point, or points, where you can examine the condition of the roof.
   c. Now, go inside the structure, and systematically move around the inside perimeter, noting any items that need repair. On doors, check hinges and

latches. Make sure all fixtures are functional (e.g., faucets, drains, toilets). Look for rot and signs of leakage.

If this is not an initial inspection, check to see if problems previously noted have been corrected. If not, enter them on the form for this inspection, along with any other problems you may encounter.

If the structure needs repair, put a "Y" in the Needs Repair column and go to step 3. If it does not, put an "N" in the column and move to the next structure.

3. If you put a "Y" in the Needs Repair column, write a brief description of the problem or problems that need repairing. Some examples of descriptions are shown in Table 3.

Now go to structure #2 and each subsequent structure and repeat the three steps above.

Complete the Litter and Human Waste Tally Boxes

During your structure-by-structure inspection, you may encounter more litter and/or unburied human waste sites. Be sure you tally these. When you have completed the structure-by-structure inspection, count up the hash marks for litter and unburied waste and write the total number for each in the boxes provided.

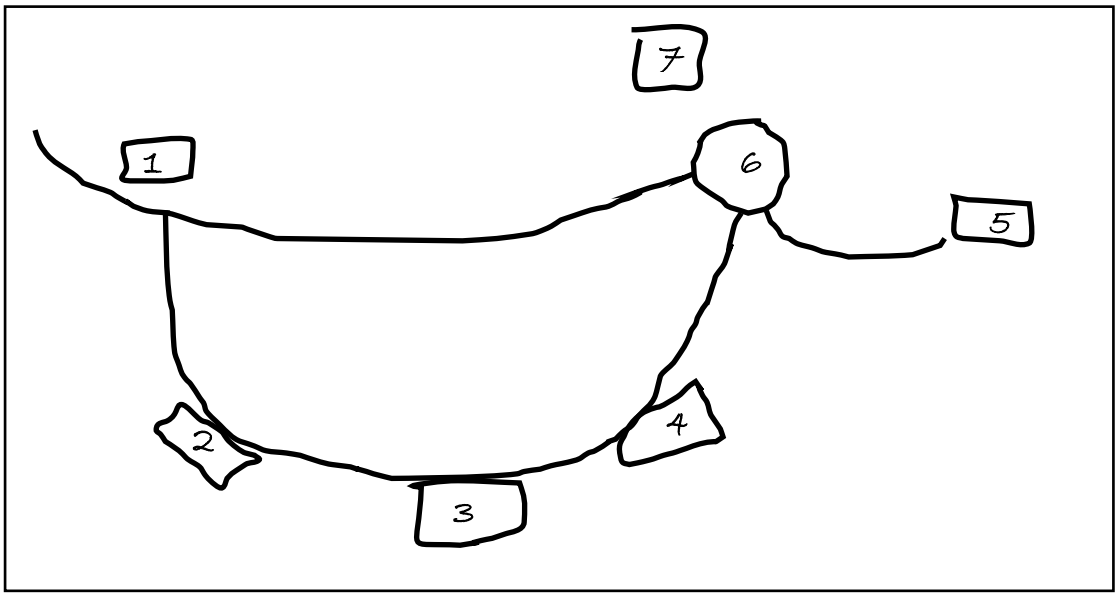


Figure 3: Example of a campsite sketch map

Table 3: Example of a completed Structure Table, using the Sketch Map in Figure 3

#*	Type**	Needs Repair	Description of Needed Repair (if applicable)
1	Bench	N	
2	Tent Pad	N	
3	Tent Pad	N	
4	Tent Pad	N	
5	Bench	N	
6	Bungalow	Y	Roof is leaking
7	Bathroom	Y	Leaky roof, shower head not connected to faucet

3.2.5 Return to the Reception Office

Properly dispose of the litter collected in the litter bag. If you used a previous sketch map, staple it to the completed form. Place the completed Campsite Condition Field Form in the "Completed Form" file for data entry. Return any other materials you took with you to their proper location.

Campsite Condition Form, Nyungwe National Park

This is a: ☐Trekking Campsite Trail Name: _____

☐Developed Area Campsite Area Name: _____

Campsite Name: _____ GPS Reading: _____Long. _____Lat.

Lead Inspector: _____ Date of Inspection: _____

Structures

#*	Type**	Needs Repair	Description of Needed Repair (if applicable)

*Use a separate line for each structure. The # in this column should correspond to a number on your sketch map.
**Use the following terms where applicable: Bungalow, Bathroom, Tent Platform, Bench, Dust Bin.

Tally the number of pieces of litter here:	Total

Tally the number of sites with unburied human waste here:	Total

Sketch Map (Draw a sketch map of the campsite below. Use your compass to orient the map with north being at the top of this form. Number each structure and use the numbers in the "Structure Table" above. The map does not need to be to scale as its purpose is to show relative locations of structures.)

N

4 USER-MADE TRAILS

What:	A census of all user-made trails by condition class
Where:	High probability sites in the Motorized Sightseeing and Developed Zones
When:	Once per year after the highest use period (September)

User-Made Trails is a measure of how many trails are being made by users and what condition those trails are in. User-made trails are trails that users have created by just walking repeatedly over the same route. They are not constructed, but made by the mere fact of repeated use. Most activities in the park require a guide. For guided activities user-made trails is not an issue, as the guides do not allow visitors to create and use their own trails. However, in the Motorized Sightseeing and Development Zones visitors are not accompanied by guides and may create user-made trails. Therefore, an inventory and assessment of user-made trails in these zones, particularly at "high probability sites," is an important component of the visitor impact monitoring program.

High Priority Sites are those sites where user-made trails are most likely to be found. These include areas on roads with user services, such as toilets and dust bins, as well as places beside the road where it is easy for cars to pull off and park (old construction staging areas or army camps). In Developed Areas high priority sites may include areas between structures and around the perimeter of campsites.

4.1 MATERIALS

- User-Made Trails Field Form
- Clip board
- Pencils
- Handheld GPS unit
- Compass
- Measuring wheel in meters
- Umbrella (to hold over clipboard while writing, if it may rain during inspection)
- Photocopy of most recent inspection as well as most recent sketch map

4.2 FIELD PROCEDURES AND REPORTING REQUIREMENTS

4.2.1 Identify High Priority Sites

Before conducting the initial inspections, park personnel need to identify the high priority sites in the Motorized Sightseeing and Developed Zones that will be included in the inventory. High priority sites are those where user-made trails are most likely to be encountered. They include:

- Areas on roads with toilets, dust bins, or other user services.
- Places beside the road where it is easy for cars to pull off and park (e.g., old construction staging areas, army camps, and the bird tower).
- Crossroads where people may spend time waiting for transport.
- Areas between structures in Developed Zones.
- The perimeters of campsites in Developed Zones.

Identifying high priority sites will require driving roads in the Motorized Sightseeing Zones and walking around Developed Zones and carefully identifying sites where one may encounter user-made trails. Each site should be given a name and a descriptive location (e.g., "Construction staging area on the south side of the Huye-Rusizi road, 14 km from NNP Kitabi Headquarters").

High priority sites on the Huye-Rusizi road should be identified by kilometers from the NNP Headquarters in Kitabi. High priority sites on the Bweyeye road should be identified as kilometers from the intersection of the Bweyeye road with the Huye-Rusizi road. High priority sites in Developed Zones should be identified with a clear description such as: "Area between the Uwinka Visitor Center and the upper campsite and researcher housing" or "The perimeter of the Karamba tented camp site."

Once the initial high priority sites have been identified, a memo-to-file identifying each site by name and location should be prepared and placed in the LAC file. If changes in park conditions require identification of new sites, these should also be named and located in a memo-to-file and placed in the LAC file.

4.2.2 Gather the Necessary Materials

Before leaving for an inspection, be sure you have all of the materials necessary for conducting the inspection, as identified in section 4.1 above.

4.2.3 Fill in the Preliminary Information on the User-Made Trails Field Form

Before leaving for an inspection, fill in the following sections of the User-Made Trails Field Form, a copy of which is included in this Manual at the end of this section.

High Priority Site Name and **Description of Location**
Write the name and description of the area as identified in section 4.2.1.

Lead Inspector
Enter the name of the person who is responsible for the information on the form (i.e., the person to be contacted if there are any questions about the data on the form).

Date of Inspection
Enter the date the inspection is being conducted in the format of 2-number day – 2-number month – 4-number year (e.g., enter "05-04-2012" for April 5, 2012).

4.2.4 Initial Inspection

If this is an initial (first-time) inspection, follow these procedures.

Go to the High Priority Site
Go to the high priority site as described in section 4.2.1.

Draw a Sketch Map

Draw a simple sketch map of the perimeter of the high priority area you are inspecting at the bottom of the form. Use your compass to determine north, and orient the map so that north is at the top of the form (an arrow indicating north is on the right hand side of the space provided for drawing your sketch map). Some sample sketch maps (with trail identifiers, discussed in the next subsection) are presented in Figure 4.

Walk the Perimeter of the Site and Complete the User-Made Trail Field Form

1. Choose a starting point and mark it on the sketch map as 0. For roadside sites, begin your walk at a point where the perimeter meets the road and walk until you encounter the road again. For areas within Developed Zones, walk the perimeter of the area described as being a high priority site, making careful note of where you begin so that you will know when you arrive at that point again, if the perimeter is a closed polygon, such as a campsite.

2. Take a GPS reading at the start point and record it in the space provided on the User-Made Trail Field Form.

3. Set the counter on the measuring wheel to 0 at point 0.

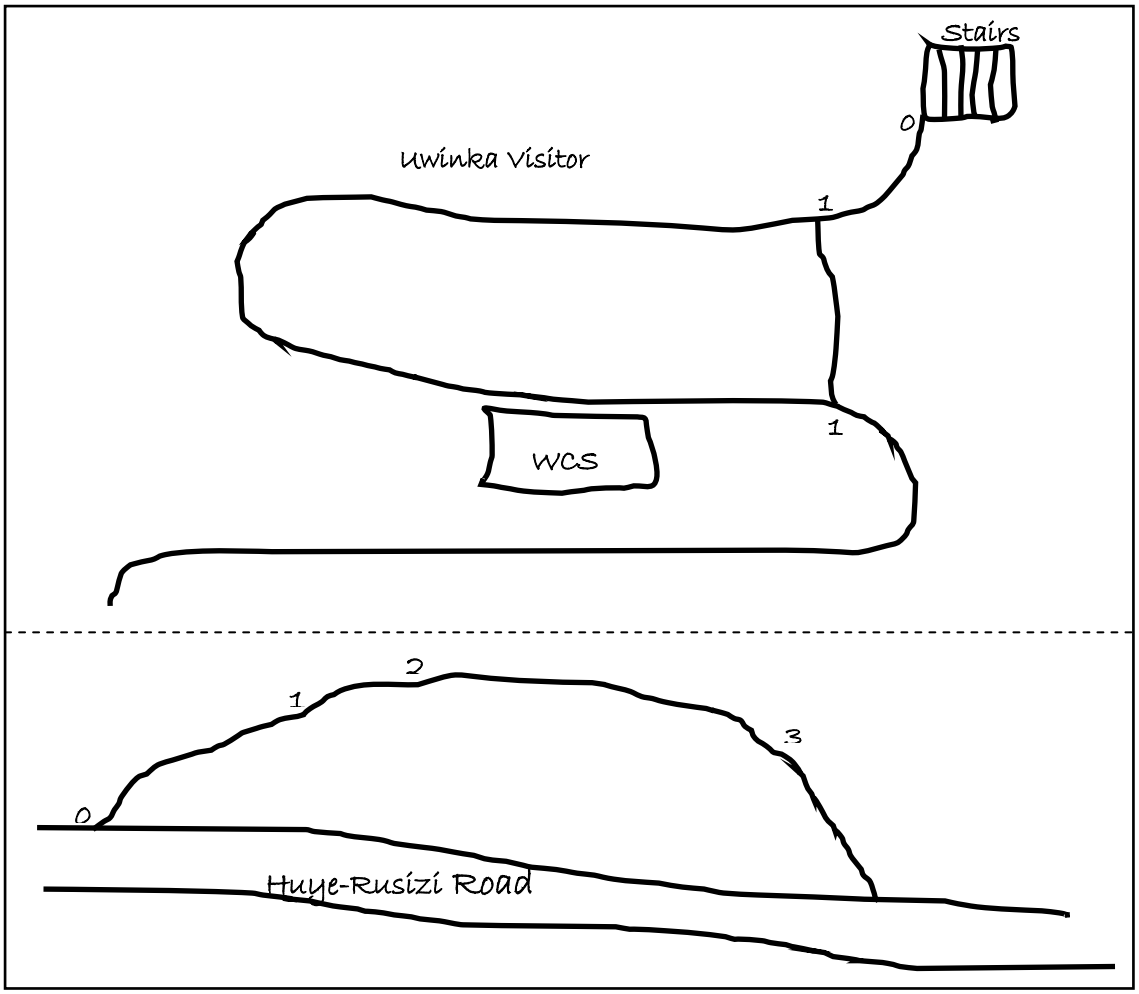


Figure 4: Sample sketch maps for User-Made Trails inventories

4. Walk the perimeter with the measuring wheel and look for any indication of a user-made trail leading into the protected area. If you encounter a trail, stop and:
    a. Place the number 1 on the sketch map at the approximate location of the trail.
    b. Place the number 1 in the "#" column on the table.
    c. Record the measuring wheel reading (to the nearest meter) in the "m" column.
    d. Leave the measuring wheel at the "trailhead" and follow the trail for a short distance to see if you can determine what it has been used for. For a trail between two structures in a Developed Zone, you may need to follow the trail to its end, to see if it is a "short-cut" from one structure to another.
    e. Record a description of the "Apparent Use" such as: "Short-cut between WCS building and Visitor Center" "Toilet" or "Access to View".
    f. Determine the Condition Class or the trail and report the corresponding number in the "Condition Class" column on the form. The Condition Classes are:
        Class 1: Trail distinguishable; slight loss of vegetation cover and/or minimal disturbance of organic litter.
        Class 2: Trail obvious; vegetation cover lost and/or organic litter pulverized in tread area.
        Class 3: Vegetation cover lost and/or organic litter pulverized within the center of the tread, some bare soil exposed.

Class 4: Nearly complete or total loss of vegetation cover and organic litter within the tread, bare soil widespread.

Class 5: Soil erosion obvious, as indicated by exposed roots and rocks and/or gullying.

These descriptions are also included on the form for field reference.

5. Continue to walk along the perimeter to the end point. If you encounter another trail or other trails, repeat step 4 recording each trail encountered in the next consecutive number (2,3,4, etc.).

Table 4: Example of a completed User-Made Trail Table, using the Sketch Maps in Figure 4

Uwinka Visitor Center Example			
#	m	Apparent Use	Condition Class
0	0	Start point for measuring wheel.	N/A
1	10	Shortcut between visitor center and WCS building	5
Huye-Rusizi Road Example			
#	m	Apparent Use	Condition Class
0	0	Start point for measuring wheel.	N/A
1	16	Toilet	1
2	23	Access to better view	3
3	49	Undetermined	2

4.2.5 Subsequent Inspections

If this is a subsequent inspection (i.e., a previous inspection has been made at the same site), follow these procedures.

Go to the High Priority Site

Go to the high priority site as described in section 4.2.1.

Draw a Sketch Map (if necessary)

Review the photocopy of the most recent sketch map that you brought with you. Use this sketch map, unless you believe that it is incorrect or that there have been changes in the perimeter that need to be added to the sketch map.

Walk the Perimeter of the Site and Identify and Classify Every User-Made Trail

1. Fill in the "#" column with the trail numbers from the previous inspection.

2. Locate the 0 point for the last inspection, using the sketch map and the GPS reading.

3. Set the counter on the measuring wheel to 0 at point 0.

4. Walk the perimeter with the measuring wheel and look for any indication of a user-made trail leading into the protected area. If you encounter a trail, stop and:
    a. Compare the location with the previous inspection.
        i. If it is a trail that has been previously identified, use the number from the previous inspection, skip step b and continue the process at step c.
        ii. If it is not a previously identified trail, go to step b.
    b. Place the next consecutive number on the sketch map at the approximate location of the trail and in the "#" column on the table. For instance, if the previous inventory had identified 3 trails and the trail you encounter is not any of the three, then give it the number 4, even if its location falls between trail #1 and trail #2 or between trails #2 and #3.
    c. Record the measuring wheel reading (to the nearest meter) in the "m" column.
    d. Leave the measuring wheel at the "trailhead" and follow the trail for a short distance to see if you can determine what it has been used for. For a trail between two structures in a Developed Zone, you may need to follow the trail to its end, to see if it is a "short-cut" from one structure to another.
    e. Record a description of the "Apparent Use" such as: "Short-cut between WCS building and Visitor Center" "Toilet" or "Access to View".
    f. Determine the Condition Class or the trail and report the corresponding number in the "Condition Class" column on the form. The Condition Classes are:

        Class 1: Trail distinguishable; slight loss of vegetation cover and/or minimal disturbance of organic litter.

        Class 2: Trail obvious; vegetation cover lost and/or organic litter pulverized in tread area.

        Class 3: Vegetation cover lost and/or organic litter pulverized within the center of the tread, some bare soil exposed.

        Class 4: Nearly complete or total loss of vegetation cover and organic litter within the tread, bare soil widespread.

        Class 5: Soil erosion obvious, as indicated by exposed roots and rocks and/or gullying.

        These descriptions are also included on the form for field reference.

5. Continue to walk along the perimeter to the end point. If you encounter another trail or other trails, repeat step 4 recording each trail encountered in the next consecutive number (2,3,4, etc.).

6. Compare your results with the previous inspection. If a trail that had been previously recorded is no longer identifiable, write "Trail not identifiable" in the "Apparent Use" column for that trail number.

4.2.6 Return to the Reception Office

Properly dispose of the litter collected in the litter bag. If you used a previous sketch map, staple it to the completed form. Place the completed Campsite Condition Field Form in the "Completed Form" file for data entry. Return any other materials you took with you to their proper location.

User-Made Trails Field Form, Nyungwe National Park

High Priority Site Name:_____ GPS Reading: _____Long. _____Lat.

Description of Location:_____

Lead Inspector:_____ Date of Inspection:_____

User-Made Trail Inventory and Assessment

#*	m	Apparent Use	Condition Class**
0	0	Start point for measuring wheel.	N/A

*Use a separate line for each trail. The # in this column should correspond to a number on your sketch map.

**Class 1: Trail distinguishable; slight loss of vegetation cover and/or minimal disturbance of organic litter.

Class 2: Trail obvious; vegetation cover lost and/or organic litter pulverized in tread area.

Class 3: Vegetation cover lost and/or organic litter pulverized within the center of the tread, some bare soil exposed.

Class 4: Nearly complete or total loss of vegetation cover and organic litter within the tread, bare soil widespread.

Class 5: Soil erosion obvious, as indicated by exposed roots and rocks and/or gullying.

Sketch Map (Draw a sketch map of the high priority site, indicating the relative location of each trail at the perimeter of the site. Use your compass to orient the map with north being at the top of this form. Number each trail and use the numbers in the User-Made Trail Inventory and Assessment table above. The map does not need to be to scale as its purpose is to show relative locations of trails.)

N

5 GUIDE REPORT FORM

What:	A census of 3 resource and 3 social indicators:
	Resource Indicators • Primate Counts • Endemic Bird Counts • Encounters with Target Primates
	Social Indicators • Group Size • Encounters with Other Groups • Encounters with Personnel
Where:	Every activity accompanied by an NNP Guide
When:	Year round

The Guide Report Form replaces the guide log book as a reporting mechanism for NNP Guides. The form contains all of the information requirements that were previously in the guide log book, as well as additional information necessary for LAC visitor impact monitoring.

5.1 MATERIALS

- Guide Report Form
- Pencil or Pen

5.2 INSTRUCTION FOR COMPLETING THE FORM

The Guide Report Form is not completed in the field. It is completed in the Reception Office by the Guide after the activity has been completed. However, the Guide may want to carry a short version of the form (the lower half containing the checklists) so that he or she can make some field notes.

5.2.1 Name, Date, Activity Type and Location

Write your name and the date in the spaces provided at the top of the form.

Check the boxes that apply to the type of activity you undertook. Check all of the boxes that apply to the activity. For example, if you guided a group to the Canopy Walk and then continued onto the Umyove Trail, you should check both the Canopy Walk and Nature Walk boxes. If all you guided them to was the Canopy Walk, then you should only check the Canopy box.

Write in the "Location of Activity" space the official name of the trail(s) you used, or in the case of primate tracking, the location you were in (e.g., Cyamudongo, Gisakura Forest). Some trails have more than one name (e.g., the Igishigishigi trail was previously called Green trail). The official names of trails are established in the table, "Trail Names and Lengths" prepared by the Tourism Warden in Kitabi on January 1, 2010. The official names are:

- Ngabwe Trail
  - Rutovu Trail
  - Rukungu Trail
  - Mwumba Trail
- Buhoro Trail
- Igishigishigi Trail
- Kamiranzovu Trail
- Isumo Trail
- Umugote Trail
- Congo Nile Divide Trail
- Uwinka Trail
- Canopy Walk Trail
- Imbaraga Trail
- Karamba Trail
- Bigugu Trail
- Muzimu Trail
- Irebero Trail
- Rukuzi Trail
- Umuyove Trail
- Rukuzi

More trails may be added to this list by the Tourism Warden, so you should also consult with him or her.

5.2.2 Visitor Information

Complete the Visitor Information table using data collected at the time that the visitor paid for the activity. If you had more than 12 people in your group, write the word "over" on line 12 and continue the list on the back of the form.

5.2.3 Number of Encounters

Number of Encounters data is recorded for all activities. Record the number of encounters your group had with other groups as well as the number of encounters your group had with other park staff, trail workers and/or researchers. An encounter occurs when a group passes another group or other park personnel on a trail, either going in the same direction or in opposite directions.

Each independent "passing" is an encounter. That is, if your group passes another group on a trail, you record an encounter. Then, if later on that same trail the other group catches up with you and passes your group, you record another encounter.

Group encounters are encounters of your group with another group of visitors, regardless of the size of the group. You should count and record encounters on the trail leading to or from the Canopy Walk separate from encounters after leaving the Canopy Walk Trail.

Encounters with other park personnel, trail workers and researchers are counted and recorded separately from group encounters, regardless of where they occur (i.e., there is no need to separate encounters on the trail to and from the Canopy Walk from other encounters). You only count encounters with park personnel who are in the park without visitors. That is, the guide with another group is not counted as an encounter with park personnel. Encounters with park personnel, trail workers and researchers should be counted in groups, where a group is one or more people. So that if you encounter one researcher working alone, that is one encounter. If you encounter three researchers working together, that is also one encounter.

5.2.4 Primate Counts

The purpose of primate counts is to establish a data base from which primate species observations can be tracked over time, to help the park determine if visitor use is impacting primate observations and, if

so, make appropriate management adjustments. The species selected for the primate counts are the diurnal species in NNP, those that you are most likely to encounter during daylight hours.

You should only make primate counts during Nature Walks, Canopy Walks or Trekking. If you are doing any other type of activity, you should not complete this section of the form.

If you are reporting on a Nature Walks, Canopy Walks or Trekking, you should place a check in the appropriate box for every species of primate you see or hear during the activity you are reporting on. Only put one check in each box. That is to say, if you see Colobus at one point in the trail you check the box. If you see them again at a later point in the trail, you do not make any further notation.

5.2.5 Endemic Bird Species Counts

The purpose of endemic bird counts is to establish a data base from which endemic bird species observations can be tracked over time, to help the park determine if visitor use is impacting bird observations and, if so, make appropriate management adjustments. The endemic birds have been chosen as indicator species for birds in general.

You should only make endemic bird species counts during Bird Watching activities. If you are doing any other type of activity, you should not complete this section of the form.

If you are Bird Watching, you should place a check in the appropriate box for every species of endemic bird you see or hear during the activity you are reporting on. Only put one check in each box. That is to say, if you see a blue-headed sunbird at one point in the trail you check the box. If you see the same species again at a later point in the trail, you do not make any further notation.

5.2.6 Target Primate Encounters

Information on target primates is only recorded for Chimpanzee Tracking. If you are guiding a group viewing chimpanzees, you need to record every encounter in the table provided. The table provides for 9 encounters, which will generally be more than sufficient, but if you need more space, please write “over” in box 9 and continue on the back of the form.

An encounter is defined as an incident when your group sees one or more chimpanzees and stops to observe them. An encounter starts when you first stop to view the group. It ends when the chimpanzees disappear from sight, or your group decides to stop viewing these particular chimpanzees and search for other chimpanzees. During an encounter, the visitor group may move with the chimpanzees. The first encounter is reported in box 1, with subsequent encounters reported in boxes 2, 3, 4, etc. For each encounter you record the following information:

Number of Individuals

Count the total number of individual chimpanzees being observed during the encounter, regardless of their age or sex. Put the total number in the Number of Individuals column.

Habituation Level

Habituation Level is a measure of how well habituated the group is. It is reported as High (with an "H") or Low (with an "L"). For the purposes of the Guide Report Form, habituation is defined by the length of time and nearness of the encounter.

- High habituation is any encounter in which you are able to view the chimpanzees for a period of at least 20 minutes at a distance of 10 meters.
- Low habituation is all other encounters – those either less than 20 minutes or at distances of more than 10 meters.

5.2.7 Trail Condition Problems

This box is an opportunity for you to identify any trail problems you have observed, for which you think some action is necessary. This would include broken or missing steps, broken handrails, landslides, etc. Please state the problem as well as its location. Describe the location in a way that can be meaningfully communicated to trail workers.

5.2.8 Other Comments

This is an open comment area, where you can make any other comments or observations, similar to the comments column in the old Guide Log Book.

Guide Report Form, Nyungwe National Park

Guide Name:_____ Date of Activity:_____

Activity Type (Check applicable box(es))

☐Nature Walk ☐Bird Watching ☐Canopy ☐Chimpanzee Tracking ☐Monkey Tracking ☐Trekking

Location of Activity:_____

Visitor Information (If more than 12, write "over" on line 12 and provide the data on the back of this form)

#	Name	Nationality	Residence	Receipt #
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

# of encounters with other groups: _____On the trail leading to or from the Canopy Walk
_____Other

# of encounters with other park staff, trail workers or researchers:_____

For Nature Walks, Canopy and Trekking, check the primates seen or heard by the Guide during the activity.

☐Blue Monkey ☐Chimpanzee ☐Colobus ☐Golden Monkey ☐Greater Bushbaby
☐ Grey-cheeked Mangabey ☐L'Hoest's Monkey ☐Mona Monkey ☐Olive Baboon ☐Owl-faced Monkey
☐Red-tailed Monkey ☐Vervet Monkey

For Bird Watching, check the endemic bird species seen or heard by the Guide during the activity.

☐Albertine owlet ☐Archer's Robin Chat ☐Blue-headed Sunbird ☐Collared Apalis ☐Dusky Crimsonwing
☐Dwarf Honey Guide ☐Grauer's Rush Warbler ☐Grauer's Warbler ☐Handsom Francolin ☐Kivu Ground Thrush
☐Kungwe Apalis ☐Mountain Masked Apalis ☐Purple-breasted Sunbird ☐Red-collared Mountain Babbler
☐Red-faced Woodland Warbler ☐Red-throated Alethe ☐Regal Sunbird ☐Rockeffeler`s Sunbird
☐Rwenzori Batis ☐Rwenzori Double-collared Sunbird ☐Rwenzori Nightjar ☐Rwenzori Turaco
☐Shelley's Crimsonwing ☐Short-tailed Warbler ☐Strange Weaver ☐Stripe-breasted Tit ☐Yellow-eyed Black Flycatcher

For Chimpanzee Tracking, complete the following table for each encounter with chimpanzees during the activity.

#	Number of Individuals	Habituation Level (L or H)	#	Number of Individuals	Habituation Level (L or H)	#	Number of Individuals	Habituation Level (L or H)
1			4			7		
2			5			8		
3			6			9		

Trail condition problems. What? Where?	Other Comments (use back if you need more space)

6 EXOTIC PLANT SPECIES INVENTORY

What:	An inventory of exotic species
Where:	Developed Zones
When:	Once per year

The purpose of the Exotic Species Inventory is to identify the extent of exotic species used in landscaping in the Developed Zone. The description of the Developed Zone includes the following statement, "Landscaping is allowed in this zone, but it should be done with species native to NNP." The data collected during this annual inventory will inform park management of where and what types of exotic species are currently used in landscaping and allow them to track the progress being made to replace exotic species landscaping with native species.

There is no special form for doing the Exotic Species Inventory. The inventory should be conducted in only the landscaped areas of Developed Zones by a competent botanist. The botanist should be required to submit a report identifying:

- The name of the person conducting the inventory.
- The date of the inventory.
- The specific areas inventoried.
- The methodology used for the inventory.
- The species identified in each area.

The report could be made in the form of a memorandum.

7 STRUCTURE CONDITION INSPECTIONS

What:	A census of 4 indicators of Structure Condition: • Structures • Cleanliness • Structure in Need of Repair • Litter
Where:	Every structure in a Developed or Motorized Sightseeing Zone
When:	Once per month

Inspections of the condition of structures in Developed and Motorized Sightseeing Zones are monthly activities. Included in the inspections is the presence of litter.

7.1 ENGINEERED ATTRACTIONS, A SPECIAL CASE

Structure Condition Inspections of Engineered Attractions are a special case. Inspection of Engineered Attractions must ensure that they are safe and must be conducted by individuals with the necessary technical expertise. This manual does not provide guidance for these inspections.

7.2 MATERIALS

- Structure Condition Inspection Form
- Clip board
- Pencils
- Litter bag
- Handheld GPS unit
- Compass
- Photocopy of most recent inspection as well as most recent sketch map

7.3 FIELD PROCEDURES AND REPORTING REQUIREMENTS

7.3.1 Gather the Necessary Materials

Before leaving for an inspection, be sure you have all of the materials necessary for conducting the inspection, as identified in section 7.2 above. You should photocopy the most recent inspection form as well as the most recent sketch map and take them with you into the field.

7.3.2 Fill in the Preliminary Information on the Structure Condition Inspection Form

Before leaving for an inspection, fill in the following sections of the Structure Condition Inspection Form, a copy of which is included in this Manual at the end of this section.

Area Name

Check the appropriate box for the type of Tourism Management Zone in which the area to be inspected is located: Developed or Motorized Sightseeing Zone. Write the name of the area in the space provided.

Area Location

Areas on the Huye-Rusizi road should be located with the road name and the kilometers from the NNP Headquarters in Kitabi. Areas on the Bweyeye road should be located with the road name and the kilometers from the intersection of the Bweyeye road with the Huye-Rusizi road.

Date of Inspection

Enter the date the inspection is being conducted in the format of 2-number day – 2-number month – 4-number year (e.g., enter "05-04-2012" for April 5, 2012).

Lead Inspector

Enter the name of the person who is responsible for the information on the form (i.e., the person to be contacted if there are any questions about the data on the form).

GPS Reading

If this is a first-time inspection, leave this blank until you go into the field. If the area has been inspected before, enter the GPS readings from the previous inspection

7.3.3 Go to the Area to Be Inspected

Go to the Area and take a GPS reading. If this is a first time inspection, record the GPS reading in the space provided on the Inspection Form. If this is a subsequent inspection, check to see if the GPS reading taken at the area is relatively the same as that copied from the previous inspection. If it is significantly different (on the order of hundreds of meters off), you should determine why. Is it because the area is so big and the previous inspector just stood in a different spot inside of the area? Are you in a different area – does the sketch map match what you see? Take your reading again, and make sure you have and accurate reading. If you cannot find a logical reason for a significant difference, write your GPS reading below the one on the form and meet with the Tourism Warden when you return from the inspection to decide how to resolve the discrepancy.

7.3.4 Walk the Entire Area

After you have recorded the GPS reading for the area, you should begin your inspection by walking the entire area. Walk to every structure in the area, following every internal trail. The purpose of this "walk around" is to familiarize yourself with the area; however, during the "walk around" you should also complete the Litter sections of the Structure Condition Inspection Form:

Litter

You should look for litter in and around the area. Each piece you see you should pick up and put in the litter bag. Tally, in the space provided on the form, each individual piece of litter picked up and put in the litter bag during inspection. Use hash marks in clusters of 5 to tally litter (e.g., ╲). Leave the "Total" box empty at this point, as you may still encounter more litter as you continue with your inspection of the site.

7.3.5 Complete the Structure Condition Inspection Form

After you have completed your "walk around," you should fill out the remainder of the Structure Condition Inspection Form as follows:

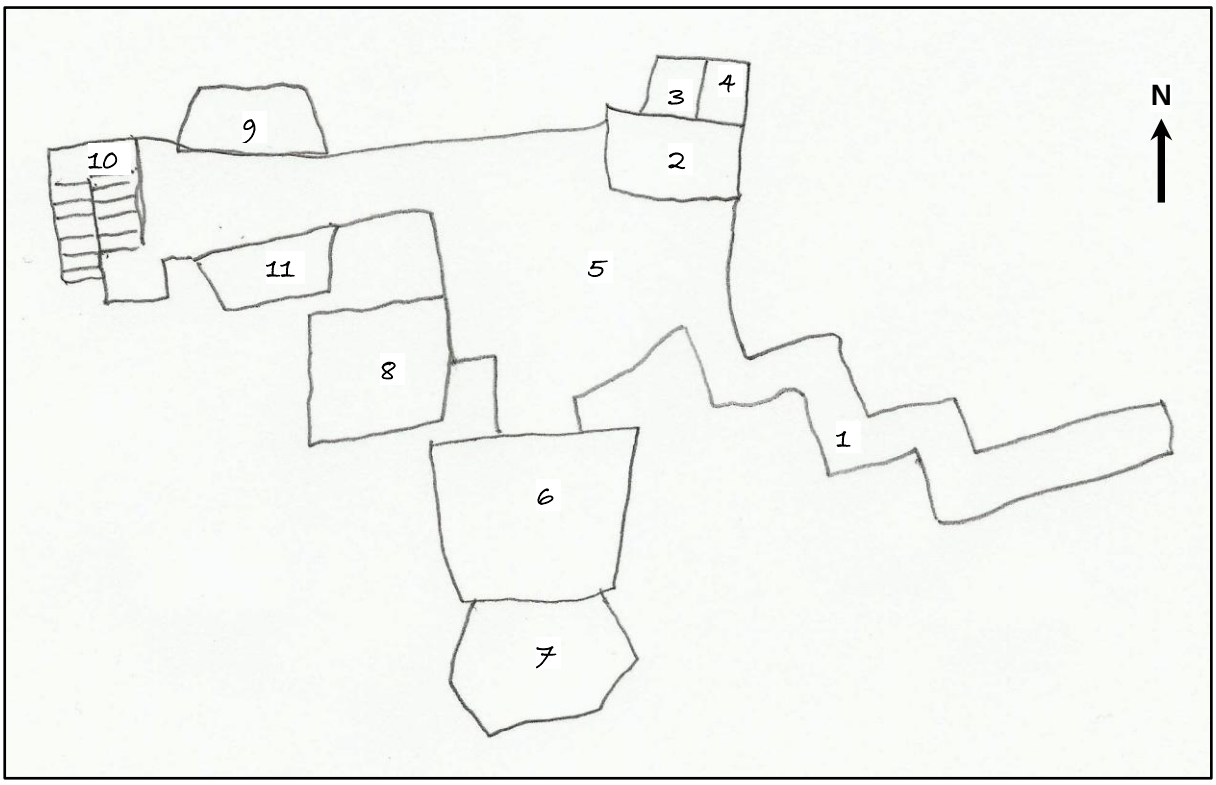
Draw a Sketch Map (if necessary)

If this is an initial inspection, draw a simple sketch map of the area at the bottom of the form. Use your compass to determine north, and orient the map so that north is at the top of the form (an arrow indicating north is on the right hand side of the space provided for drawing your sketch map). The purpose of the map is to provide the relative location of every structure listed in the "Structure" table on the form. It is not important that the map be drawn to scale, but it is important that the relative location of each structure is indicated.

If this is a subsequent inspection, use the photocopy of the most recent sketch map that you brought with you, unless you believe that it is incorrect or that there have been changes that need to be added to the sketch map.

Once you have drawn your sketch map, mark each structure on the map with a unique number (1, 2, 3, 4, …). If you are using a previous sketch map, use the same numbers for each structure as were used on the previous map. Then put those numbers in the # column in the Structure Table. Figure 5 provides an example of a sketch map.

Figure 5: Sample sketch map for Structure Condition Inspection



Complete the Structure Table

Go to structure #1 and:

1. Write the type of structure that it is in the Type column of the Structure Table.

2. Determine if the structure needs repair.
   For small structures (dust bin, bench, etc.), a quick assessment is adequate. For larger structures (bungalow, bathroom, etc.) you should take more time and use the following procedures:
   a. Walk around the outer perimeter of the structure, noting any items needing repair on the foundation, exterior floors and walls and, if applicable, the eaves of the structure.
   b. Move to a point, or points, where you can examine the condition of the roof.
   c. Now, go inside the structure, and systematically move around the inside perimeter, noting any items that need repair. On doors, check hinges and latches. Make sure all fixtures are functional (e.g., faucets, drains, toilets). Look for rot and signs of leakage.

   If this is not an initial inspection, check to see if problems previously noted have been corrected. If not, enter them on the form for this inspection, along with any other problems you may encounter.

   If a structure needs repair, put a "Y" in the Needs Repair column and go to step 3. If it does not, put an "N" in the column and go to step 4.

3. If you put a "Y" in the Needs Repair column, write a brief description of the problem that needs repairing. Some examples of descriptions are shown in Table 5.

4. Assess the cleanliness of the structure marking the "E" column for excellent, the "S" column for satisfactory and the "U" for unsatisfactory. Table 6 provides guidance on how to assess cleanliness for various structures.

Now go to structure #2 and each subsequent structure and repeat the four steps above.

Table 5: Example of completed Structure Table, using the Sketch Maps in Figure 5

#*	Type	Needs Repair	Cleanliness			Description of Needed Repair (if applicable)
			E	S	U	
1	Stairs to Visitor Center	N	✓			
2	Reception	N	✓			
3	Men's Toilet	Y		✓		leaking faucet
4	Women's Toilet	N			✓	
5	Patio	N	✓			
6	Interpretation Center	Y	✓			Crack in glass covering one display
7	Covered Area	N	✓			
8	Canteen	N		✓		
9	Covered Area	N	✓			
10	Stairs to Trails	N	✓			

*Use a separate line for each structure. The # in this column should correspond to a number on your sketch map.

Table 6: Cleanliness rating system

Type of Structure	Criteria
Common Areas	• All surfaces (e.g. top of counters, window ledges, doorknobs, walls, furniture) are free of dust, grease and food particles • Floors are free of litter • Windows and window coverings - interior and exterior - are free of dust, grease and fingerprints
Bathrooms	• All surfaces (e.g. top of counters, toilet, sink, door knobs) are free of grease, dirt, mildew, stains, hair, fingerprints and build-up of soap scum • Floors are dry and free of litter • Windows and window coverings - interior and exterior - are free of dust, grease and fingerprints • Soap is provided • A means of drying hands is provided • Toilet paper is provided • Dust bin is provided and it is not overflowing
Outdoor Benches and Dust Bins	• All surfaces (e.g., bench seats and backs, dustbin tops, covers and sides) are free of grease, dirt, and animal droppings • Dust bins are not overflowing
Excellent = meets all or nearly all of the criteria Satisfactory = meets most or many of the criteria Unsatisfactory = meets few or none of the criteria	

Complete the Litter Tally Box

During your structure-by-structure inspection, you may encounter more litter. Be sure you tally these. When you have completed the structure-by-structure inspection, count up the hash marks for litter and write the total number for each in the "Total" box.

7.3.6 Return to the Reception Office

Properly dispose of the litter collected in the litter bag. If you used a previous sketch map, staple it to the completed form. Place the completed Campsite Condition Field Form in the "Completed Form" file for data entry. Return any other materials you took with you to their proper location.

Structure Condition Inspection Form, Nyungwe National Park

This is a: ☐ Developed Zone
☐ Motorized Sightseeing Zone Area Name:_____

Area Location:_____ Date of Inspection:_____

Lead Inspector:_____ GPS Reading: _____Long. _____Lat.

Structures

#*	Type	Needs Repair	Cleanliness			Description of Needed Repair (if applicable)
			E	S	U	

*Use a separate line for each structure. The # in this column should correspond to a number on your sketch map.

Tally the number of pieces of litter here:	
	Total

Sketch Map (Draw a sketch map of the area below. Use your compass to orient the map with north being at the top of this form. Number each structure and use the numbers in the "Structure Table" above. The map does not need to be to scale as its purpose is to show relative locations of structures.)

N

8 VISITOR FEEDBACK FORM

What:	A voluntary survey of all visitors participating in an activity.
Where:	Every activity accompanied by an NNP Guide
When:	Year round

The Visitor Feedback Form (reproduced below) replaces the visitor comment book as a feedback mechanism for NNP. The form solicits comments in a manner that will generate data, as well as providing an open-ended comment area as previously provided by the comment book. As with the comment book, filling out the form is completely voluntary on the part of the visitor. To encourage the visitors to take the time to complete the form, it is printed on A5 paper (one-half of a sheet of A4 paper), thus giving the accurate impression that completing the form will take little time.

8.1 MATERIALS

- Visitor Feedback Forms

8.2 FIELD PROCEDURES AND REPORTING REQUIREMENTS

The "field procedure and reporting requirements" for the visitor feedback form are very basic. The guide is responsible for giving each participant in an activity a form at the end of the activity. The guide should tell the group that filling out the form is voluntary and that those who choose to fill out the form should place their completed forms in the "Visitor Feedback" box at the reception.

Visitor Feedback Form

Please help us maintain and improve the quality of our activities by giving us your feedback.

Is this your first visit to Nyungwe? Yes☐ No☐ If no, how many previous visits have you had?_____

What activity did you participate in? ☐Nature Walk ☐Bird Watching ☐Canopy Walk ☐Trekking ☐Monkey Tracking ☐Chimpanzee Tracking

What trails were you on? _____

How would you rate the following:	Excellent	Good	Fair	Poor
Overall Quality of the activity	☐	☐	☐	☐
Quality of the guide (knowledge, assistance and skill)	☐	☐	☐	☐
Quality of printed or online information provided prior to activity	☐	☐	☐	☐

Reasons for your ratings:

Would you recommend a visit to Nyungwe National Park to a friend? Yes☐ No☐ If No, why not?

Other Comments:

APPENDIX A: NYUNGWE NATIONAL PARK TOURISM MANAGEMENT ZONES

	Nature Walk	Bird Watching	Engineered Attractions	Trekking	Primate Tracking	Developed Zone	Motorized Sightseeing
General Description	This zone is comprised of trail corridors used primarily for guided nature walks. On rare occasions, off-trail visitor use to improve wildlife viewing is allowed in this zone.	This zone is comprised of trail corridors used primarily for guided bird watching. Minimal off-trail visitor use to improve bird viewing is allowed in this zone.	This zone is comprised of trail corridors used for access to engineered attractions (e.g., canopy walks and zip lines) and the corridors through which engineered structures pass. Guides are required in this zone. On rare occasions, off-trail visitor use to improve wildlife viewing is allowed in this zone.	This zone is comprised of trail corridors and associated campsites used primarily for guided, multi-day nature walks. On rare occasions, off-trail visitor use to improve wildlife viewing is allowed in this zone.	This zone is comprised of the areas (polygons) used for guided primate habituation, tracking and viewing. Significant off-trail visitor use to improve primate viewing is allowed in this zone.	This zone is comprised of the areas (polygons) where major visitor and administrative facilities are located. Park facilities such as the visitor center, education center, research station and developed campgrounds as well as concessionaires' facilities are located in this zone. Off-trail visitor use is allowed in this zone and visitors are free to move about in the zone without a guide.	This zone is comprised of road corridors used for public and private transport. Guides are not required in this zone. No off- road visitor use is allowed in this zone.

	Nature Walk	Bird Watching	Engineered Attractions	Trekking	Primate Tracking	Developed Zone	Motorized Sightseeing
Biophysical Resource Conditions	The areas in this zone are predominately natural with some evident resource modifications within the immediate trail corridor. There is minimal visible impact on resources outside of the immediate corridor. Minor modifications of resources outside of the immediate trail corridor can be made for essential visitor and park operation needs, but they are made in a way that harmonizes with the natural environment.	The areas in this zone are predominately natural with some evident resource modifications within the immediate trail corridor. There is minimal visible impact on resources outside of the immediate corridor. Minor modifications of resources outside of the immediate trail corridor can be made to improve bird viewing and for park operation needs, but they are made in a way that harmonizes with the natural environment.	The areas in this zone are predominately natural with some evident resource modifications within the immediate trail corridor. There is minimal visible impact on resources outside of the immediate corridor, with the exception of significant, localized resource modifications associated with engineered structures. With the exception of the engineered structures, only minor modifications of resources outside of the immediate trail corridor can be made for essential visitor and park operation needs, but they are made in a way that harmonizes with the natural environment.	The areas in this zone are predominately natural with some evident resource modifications within the immediate trail corridor. There is minimal visible impact on resources outside of the immediate corridor. Minor modifications of resources outside of the immediate trail corridor can be made for essential visitor and park operation needs, but they are made in a way that harmonizes with the natural environment.	The areas in this zone are predominately natural with some evident resource modifications within the immediate trail corridors. There is moderate visible impact on resources from visitor use and tracking camps outside of the immediate corridor.	The areas in this zone have been highly modified from their natural state. The zone, however, is generally surrounded by areas that are predominately natural. Landscaping is allowed in this zone, but it should be done with species native to NNP.	The areas in the immediate road corridor in this zone have been highly modified from their natural state. The areas outside of the immediate road corridor, however, are predominately natural, with moderate visible impact on resources. Moderate modifications of resources outside of the immediate road corridor can be made for road maintenance and essential visitor and park operation needs, but where feasible they are made in a way that harmonizes with the natural environment.

	Nature Walk	Bird Watching	Engineered Attractions	Trekking	Primate Tracking	Developed Zone	Motorized Sightseeing
Visitor Experience	This zone provides a sense of being immersed in a natural landscape and feels somewhat distant from most comforts and conveniences. Visitors can see, touch, smell and hear park resources as they walk in this zone. Visitors must commit a block of time, have some outdoor skills, and expend moderate physical exertion to use this zone. The probability of encountering other visitors (outside of those in their own group) is moderate. (Sometimes the trails in this zone are used for bird watching. In these instances, the visitor experience is managed to the Bird Watching Zone conditions.)	This zone provides a sense of being immersed in a natural landscape and feels somewhat distant from most comforts and conveniences. Visitors can see, touch, smell and hear park resources as they walk in this zone. Visitors must commit a block of time, have some outdoor skills, and expend moderate physical exertion to use this zone. The probability of encountering other visitors (outside of those in their own group) is low. (This zone is restricted to bird watching in the mornings and evenings, but may be used for nature walks at other times. During non-bird-watching uses, the visitor experience is managed to meet the Nature Walk Zone conditions.)	This zone provides a sense of being immersed in a natural landscape and feels somewhat distant from most comforts and conveniences. Visitors can see, touch, smell and hear park resources as they experience this zone. Visitors must commit a block of time, have some outdoor skills, and expend moderate physical exertion to use this zone. The probability of encountering other visitors (outside of those in their own group) is high. (During dawn and dusk, some of the structures in this zone may be used for bird watching, at which time the visitor experience is managed to meet the Bird Watching Zone conditions.)	This zone provides a sense of being immersed in a natural landscape and feels distant from most comforts and conveniences. Visitors can see, touch, smell and hear park resources as they walk in this zone. Visitors must commit a multi-day block of time, have moderate outdoor skills, and expend high physical exertion to use this zone. The probability of encountering other visitors (outside of those in their own group) is low. (Sometimes the trails or portions of the trails in this zone are used for single day activities such as nature walks and bird watching. In these instances, the visitor experience is managed to the Nature Walk Zone or Bird Watching Zone conditions as appropriate.)	This zone provides a sense of being immersed in a natural landscape and feels somewhat distant from most comforts and conveniences. Visitors can see, touch, smell and hear park resources as they walk in this zone. Visitors must commit a block of time, have some outdoor skills, and expend moderate physical exertion to use this zone. Visitors will not encounter other visitors (outside of those in their own group) in this zone.	This zone provides a sense of being in a human made environment with comforts and conveniences, but surrounded by a natural landscape. Visitors can see, touch, smell and hear park resources when they are in this zone. They also have an opportunity to access park information. Visitors do not necessarily need to commit a block of time, nor do they need to have outdoor skills or expend much physical exertion to use this zone. This zone offers opportunities for social experiences and the probability of encountering other visitors is very high.	This zone provides a sense of being in a human made environment that passes through a natural landscape. Visitors can see and learn about park resources as they drive or ride in this zone. There may be limited opportunities to stop and get out of their vehicles to see, smell and hear park resources. Visitors can experience the Park in this zone without committing any additional time to their travel, nor do they need to have outdoor skills or expend any physical exertion to use this zone. The probability of encountering other visitors is very high.

	Nature Walk	Bird Watching	Engineered Attractions	Trekking	Primate Tracking	Developed Zone	Motorized Sightseeing
Management Conditions	Unpaved, maintained trails with associated basic structures (e.g., signs, handrails, bridges and benches) are the only facilities in this zone. Trail guide pamphlets, guide briefings and guide group management are the main visitor management opportunities in this zone. The probability of encountering park staff (other than the accompanying guide), trail workers or researchers is moderate.	Unpaved, maintained trails with associated basic structures (e.g., signs, handrails, bridges, boardwalks, bird towers and benches) are the only facilities in this zone. Trail guide pamphlets, guide briefings and guide group management are the main visitor management opportunities in this zone. The probability of encountering park staff (other than the accompanying guide), trail workers or researchers is low.	Unpaved, maintained trails with associated basic structures (e.g., signs, handrails, bridges and benches) and the engineered structures themselves are the only facilities in this zone. Information pamphlets, guide briefings and guide group management are the main visitor management opportunities in this zone. The probability of encountering park staff (other than the accompanying guide), trail workers or researchers is moderate.	Unpaved, maintained trails with associated basic structures (e.g., signs, handrails, bridges and benches) and basic campsites (all with fire rings and latrines and some with other facilities such as with cement pads, tent platforms, bungalows, bucket showers, and trash cans). Trail guide pamphlets, guide briefings and guide group management are the main visitor management opportunities in this zone. The probability of encountering park staff (other than the accompanying guide), trail workers or researchers is moderate.	Unpaved, maintained trails with associated basic structures (e.g., signs, handrails, bridges and benches) are the only facilities in this zone. Information pamphlets and signs as well as guide briefings and guide group management are the main visitor management opportunities in this zone. The probability of encountering park staff (other than the accompanying guide), trail workers or researchers is low.	Extensive construction including buildings, sanitary facilities, roads, campgrounds and paved and unpaved trails are in this zone. Information pamphlets, signs, displays and programs are the main visitor management opportunities in this zone. The probability of encountering park staff is very high at park facilities, but may be low at concessionaire facilities.	Paved and unpaved, maintained roads with associated structures (e.g., signs, bridges, drainage structures, pull-outs, and viewpoints) as well as shops and sanitary facilities may be found in this zone. Road guide pamphlets and signs are the main visitor management opportunity in this zone. The probability of encountering park staff is low.

APPENDIX B: PARTICIPANTS IN LIMITS OF ACCEPTABLE CHANGE WORKSHOPS AND MEETINGS, APRIL 16-26, 2012

Gisakura, Rwanda
Facilitated by Lane Krahl, SSENNP/DAI

LAC Workshop, April 16-18

Name	Organization
Dushimimana Jules Cesar	NNP
Eppa David	Nyungwe Forest Lodge
Faustine Mugabe	Nyungwe Top View Hill Hotel
Gakima Jean Baptiste	WCS
Imanishimwe Ange	NNP
Kambogo Ildéphonse	NNP
Karerwa Goreth	Nyungwe Top View Hill Hotel
Mugabe Robert	NNP
Ndikubwimana Innocent	NNP
Ntoyimkima Claver	NNP
Samson Kibet	Nyungwe Top View Hill Hotel

LAC Indicators Identification Meeting, April 19

Dushimimana Jules Cesar	NNP
Gakima Jean Baptiste	WCS
Imanishimwe Ange	NNP
Mugabe Robert	NNP
Ntoyimkima Claver	NNP

LAC Indicators Field Testing and Refinement Workshops/Meetings, April 23-26

Dushimimana Jules Cesar	NNP
Gakima Jean Baptiste	WCS
Kambogo Ildéphonse	NNP
Mugabe Robert	NNP
Ndikubwimana Innocent	NNP
Ntoyimkima Claver	NNP