

United States Forest Service Technical Assistance Mission to Gabon Support to Gabon's National Park System April 26-May 6, 2004

USFS Technical Assistance Team

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I. Background

President Omar Bongo established Gabon's National Park System declaring thirteen national parks in August 2002, most of these being newly established parks. A visit by the United States Secretary of State, Colin Powell, and later a delegation of US Government officials in February 2003, encouraged the involvement of US technical assistance to support Gabon confront the challenges of implementing President Bongo's declaration. As a result of these trips, US Forest Service (USFS) was identified as one of the US agencies to provide technical assistance to help Gabon achieve their natural resources objectives.

Consequently, a Technical Assistance Team made up of US Forest Service and US Fish and Wildlife Service representatives visited Gabon in June 2003 to assess and identify where US Agency technical assistance could help Gabon manage their National Park System. Through discussions with Gabonese National Park personnel and conservation organization representatives, it was determined the primary need for the National Park System was to establish a process by which the Gabonese can develop, implement and revise management plans for all 13 of their national parks, understanding management objectives and implementation tasks. To assist in fulfilling that need, the US Agency Technical Assistance Team began working with National Park System staff, government agency representatives, and conservation organization representatives at Loango National Park in development of a draft park management plan to serve as a model for use in developing management plans for Gabon's National Park System.

To further support the Gabonese government in building their capacity to develop National Park management plans, a follow-up US Forest Service technical assistance team traveled to Gabon from April 26-May 6, 2004. The mission continued the management plan work started in June 2003, further developing the Loango National Park draft management plan as well as beginning the management planning process for Lope National Park. What follows is a summary of the work done during this 2004 technical assistance mission, including key discussion points and recommendations for next step tasks. Gabonese park Conservators, members of the National Council for National Parks (Conseil National des Parcs Nationaux – CNPN), conservation organization representatives, and other Gabonese government agency representatives participated in the meetings throughout the 10 day visit of the USFS Technical Assistance Team.

Overall development and coordination of the trip were provided by the Wildlife Conservation Society (WCS), one of the primary nongovernmental organizations working with the Gabonese Government on the National Park System. Principle logistical support was provided by the United States Embassy in Libreville.

II. General Observations

1. A great deal of progress had been made since the 2003 US Technical Assistance mission to Gabon: each Park has been assigned a Conservator; a legislative mandate is being developed to create a National Park Service; and CNPN is currently working out the details of who has authority and where. There is still a great deal to be done, but nonetheless, Gabon should be complemented for its achievements to date in establishing Gabon's National Park System.
2. Park Conservators and other workshop participants are learning quickly and building internal capacity for park planning. There is a noticeable increased understanding of planning concepts and management plan components.
3. There is an efficiency to be realized with planning of each subsequent park, building upon concepts and components developed at previous parks and applicable to each new park. The Conservators are able to build upon previous work as there is great similarity in park objectives. Participants from our Loango and Lope sessions are building the capacity that can be used to help train subsequent park planning efforts.
4. There was considerable yet unresolved discussion about the authority and management of the Park designated 'buffer zone' identified in the Forestry Code. Since many of the park threats exist outside of park boundaries, buffer zone management is an extremely important element to the successful management of the National Parks in Gabon. Management decisions will have to be in close consultation with the Conservator and the National Park System if authority is not housed within the National Park System.
5. The governance authority within each National Park is vague. Some provincial governors believe they have management authority over CNPN and the respective Conservator on lands inside park boundaries and therefore may make decisions that impact the park. In order to manage the National Parks successfully, it will have to be clear who has governance authority and where.
6. There is no clearly defined park planning process, outlining park management plan development, approval, and enforcement. A process needs to be developed and approved that clearly defines the authority for the development of park management plans, approval of those plans (both interim approval of draft plans and final approval), and the enforcement of on-the-ground management decisions.
7. Some participants felt this current USFS effort to develop park management plans was repeating previous work done by conservation organizations. In our assessment, previous work did not develop a complete management plan document that sufficiently outlined how the park should be managed. A number of key steps to develop a fully functional management plan were missing, or not thoroughly developed.
8. It is essential for the Conservators to understand their parks and how to achieve their objectives. As Conservators are familiarizing themselves with management plan concepts and their particular park issues, they will need to rely heavily on CNPN direction and management and on-the-ground partners.
9. Supervisory control and authority is unclear for personnel working in Gabon National Parks as not all personnel are from the same government agency. Some are under CNPN authority and

some are under MEF authority. The Conservator will need to lead all personnel to manage their Park appropriately. Management authority should be clearly articulated.

10. When reviewing existing management plans across Africa and parts of Europe, the USFS team noticed these plans have a great deal of description but offer little guidance. The 'Introduction' section of USFS management plans are often what others consider a complete management plan. There is a great tendency to make background information, analysis of data, and present state of the resource as the management plan itself without offering any activity descriptions to confront resource issues on the ground.

III. Management Planning

The team spent the first four days in Libreville, focusing on further development of park management planning concepts, with a primary emphasis on Loango National Park. The team first met with all of the newly assigned 14 National Park Conservators and gave a general overview of management planning concepts. This was to ensure all Conservators would be exposed to the management planning process even if their park had not yet begun a management planning process. It will facilitate dissemination of the concepts in the future. The USFS team provided a simplified version of a US Forest Service management plan as a model, outlining the differences of this structure to current examples reviewed from Gabon and other countries in Africa. A short presentation was then given to the Conservators on the need and use of GIS in management planning.

A. Management Plan Structure offered by USFS team: 5 main parts

1. Introduction: The introduction provides an overview of the physical and biological characteristics of the park, current conditions and future risks, highlights unique features of the park, and why the park was established.
2. Objectives: The objectives outline why the park was established and provide overall guidance for future management. They provide guiding principles and establish priority management direction (conservation, tourism, research).
3. Park wide rules: These are rules and regulations that apply to the entire park and are established in order to achieve park objectives (reglements interieures).
4. Zoning: Zoning is a management tool to identify priority land uses in specific areas of the park where special management activity or specific protection is focused. Each zone has special rules, more specific than park wide rules.
5. Evaluation and monitoring: Monitoring and evaluation is a plan component that outlines monitoring activities to gather key information needs and to evaluate progress in achieving management objectives. It provides a structured opportunity to focus limited information gathering resources and amend management direction where needed.

Several key principles about park planning were discussed:

1. Management plans should be dynamic and flexible, and not considered permanent. They should be revised when significant new information becomes available, when new issues arise, or when conditions change substantially.
2. Management plans should be developed using an "adaptive management approach," where Conservators utilize best available existing data to progressively move forward in their park planning and implementation, updating their management plans and adjust activity

implementation as additional data is collected and verified. Moving forward with the planning process using best available information can reveal data deficiencies and information needed for park management. There should be an ongoing effort by field personnel and GIS specialists to continue to collect, build, improve and standardize the GIS database for the Parks so park Conservators can make informed management decisions

3. The park objectives are the most critical element of the plan. Objectives represent the guiding principles for the park. All activities and management relate back to and should be consistent with park objectives. The USFS management plan model clearly states the management objectives of the park and how to address these objectives through certain activities. Each component of the plan must relate back to the overall park objectives.

B. Loango and Lope Management Plan Development

After reviewing general park planning concepts with all Park Conservators, the USFS team then worked with a much smaller group to address Loango Park issues specifically (see participant list in Annex 4). This group continued work on the draft Loango Management plan initiated in June 2003, first reviewing the decisions and results from the June 2003 Mission and then refining and further developing Park objectives, Park-wide rules, the zoning map, and specific rules for each zone. An assessment of GIS data was also made to determine the availability of data to support zoning and to identify resources and external influences in and around the parks. The Loango Group identified tasks that still need to be addressed by the Conservators as well as CNPN. The USFS team then traveled to Lope and spent three days conducting the same type of activity with Lope resource personnel, the newly appointed Conservator, and conservation organization representatives working in the area (see participant list in Annex 4).

1. Libreville: Loango National Park Management Plan Development

The USFS team, Loango Conservators, Loango resource staff, and conservation organization representatives worked to revise and further develop the pre-existing Loango management plan. Through a variety of discussions, debate, and analysis, recommendations were made for many revisions. USFS team will be incorporating the agreed upon revisions into an updated “draft” management plan document for Loango that will then be sent to the field for further refinement. There were several issues that we feel could benefit from further evaluation and consideration. Some of these issues will be highlighted in this report and along with others will be discussed in the updated “draft management plan” document. Discussion highlights and findings on the content and issues involving the major sections of the Loango Management Plan draft are provided below:

Introduction: The purpose and content of the Loango Plan Introduction was first discussed. The Introduction should include the purpose and description of the park, key features and natural resources; an explanation of the purpose and scope of the management plan; park administration; and provide an overview of the biological, physical, and social (communities) resources of the park. During the discussion, it became clear that elements of this proposed “Introduction” often represented the entire management plan of other plans.

Objectives: The many objectives that were initially developed in 2003 were reviewed. After considerable discussion, five objectives were agreed upon and include:

1. Protect flora and fauna, particular emphasis on lagoons and coastal ecosystems;
2. Protect a diversity of ecosystems represented in the park;
3. Protect important geological features, wetlands of scientific and aesthetic value;
4. Develop tourism activities consistent with park objectives;

5. Integrate customary community uses into park management.

Regulations: Park wide regulations were then addressed. For this work, several Gabonese legal codes were referenced to ensure that all park regulations were consistent with national law and were incorporated as park regulations for transparent management. These codes included the Park decree establishing Loango National Park, Forestry Code, Fishing Code, and Environmental Code. Specific issues addressed during park-wide regulation development were Air Resources, Beach and Estuary Ecosystems, Infrastructure Development, Fire Management, Fishing, Communities within the Park, Mineral Development, Recreation and Tourism, Mangrove ecosystems, Soil and Water, Community Subsistence Activities (fishing farming, wood gathering, hunting, foods, etc.), and Transportation and Park Access, including airports. Not all issues considered during the June 2003 US Mission were fully discussed. These will be integrated into the updated draft management plan for thorough review. An overarching management principle was agreed by all: all activities in the Park were prohibited unless authorized in the Park Management Plan and by the Conservator.

Zoning: The last issue considered by the working group was the concept of park zoning. The principals of zoning were repeated: 1) zones are designed to address spatially specific issues not covered by park wide rules and 2) zones permit more specifically targeted management of particular areas. Each zone must have a specific set of rules and regulations tailored to the objectives of that zone which are different from park-wide regulations. An assessment of GIS data was also made to determine the availability of data to support zoning, identifying resources and external influences in and around the parks. A total of 6 zones were identified: Ecological Protection Zones; Village Zones; Subsistence Only Fishing Zone; Subsistence and Sport Fishing Zone; Sacred Sites Zone; and Infrastructure Zone. Using GIS technology and expert knowledge of participants, draft zones were spatially defined within Loango National Park (See Annex 3).

During the zoning discussions, there was extensive debate on one issue in particular - Sport fishing. Conservators were undecided whether to assign a park wide regulation to sport fishing or to assign a zone that would control it. In the end, the conservators made a decision to prohibit sport fishing in Louri Lagoon over fears that continued sport fishing would result in an unacceptable decline in sport fish populations. There has been no monitoring or research to indicate that sport fishing in the lagoon is adversely impacting sport fish populations. USFS felt this issue in particular could use further debate.

Conservator Presentation: On the last day of the workshop, a presentation was given by the Conservators with whom we were working (Loango and Lope Conservators). This presentation summarized their understanding of the park planning principles introduced the first day. The Conservators summarized the objectives, park-wide rules, and zones developed for Loango National Park during the week. It allowed the USFS team to see how concepts had been understood and where certain messages may need to be further emphasized for the follow-on work in Lope. The presentation by the Conservators demonstrated a good understanding of park plan development and a substantial amount of progress accomplished during the week.

2. Lope: Lope National Park Plan Development

The team then traveled to Lope National Park to conduct the same planning activity with Lope resource personnel, the newly appointed Conservator, and conservation organization representatives working in the area. Upon arrival, the participants visited several sites in/around Lope Park to become familiar with the ecological system and relevant management issues. These included a communication tower built inside Park boundaries, archeological sites, the border

areas between the town of Lope and the Park, and a wildlife viewing tour through the forest savannah to view forest elephants.

The workshop began in Lope with the same format that was followed in Libreville. Participants discussed the content and issues involving the major parts of a draft Lope National Park Management Plan. In general, the discussions were more focused because all participants had been through the same discussions for Loango Park. The benefit of previous experience was beginning to reap dividends and participants were grasping a fuller understanding of the concepts and components of a Park plan.

Introduction: The Introduction of the Lope Management Plan will need to include the same concepts outlined in the Loango plan, clarify hierarchy of legal authorities for establishment and management of the National Park and discuss the international significance and context for the Park. During these discussions, participants asked about the overall management plan development process – their creation, management and enforcement authorities, public participation, approving a plan, revising a plan, and differential responsibility of the Conservator. These concepts need to be clarified. It is not an issue particular to Lope, but more relevant to all parks and should be outlined in legislation or CNPN regulations.

Objectives: The same general objectives that were adopted for Loango were adopted with minor revisions for Lope:

1. Protect flora and fauna with special emphasis on the Ogooue and Offoue Rivers and wildlife species endemic to the park;
2. Manage and protect savannah and the forest-savannah mosaic ecosystems;
3. Protect archeological sites, landscapes, and geological formations of scientific and aesthetic value;
4. Develop sustainable tourism activities consistent with the park objectives, contributing income to park management and the local economy;
5. Involve local communities in park management, especially environmental education and local employment.

Park Wide Regulations: As with the Loango discussion, many of the existing laws and decrees were examined for compatibility with the objectives developed for the Park. These included the decree establishing Lope National Park, the Forestry Code, Fishing Code, and Environmental Code. Many of the relevant and applicable regulations contained in these laws were repeated and adopted as necessary park-wide regulations. The default principle that all activities are prohibited unless specifically authorized was also adopted for Lope. There was considerable discussion on the following topics: Infrastructure development – for park management and research activities; Fire management; and Wildlife Management – hunting and illegal bushmeat activity. Not all of the Loango specific topics were addressed in Lope, only the prominent issues. The specifics for each will be included in the updated Lope draft management plan. Furthermore, those topics not covered in Lope but addressed in Loango, will be included in the updated Lope draft management plan for discussion and review purposes.

Zoning: The concept of addressing the need for specific management zones was then discussed. These zones were created to support the objectives of the Park, each had their own zone-specific regulations; and each zone was mutually exclusive. The following zones were discussed and identified:

1. Infrastructure: this zone identified specific areas where light infrastructure was permitted to support existing and future administrative and research facilities. By definition, infrastructure development was prohibited outside of these Infrastructure authorized zones.

Several Conservators expressed the opinion that the National Park System itself should develop the light infrastructure needed to facilitate eco-tourism operations in the national parks. They felt this approach would give them control over the type of facilities constructed in the parks. This is another issue the USFS team feels could benefit from further reflection. Development of infrastructure for tourism by the National Park Service would require the commitment of funds that may be more appropriately spent on park resource management projects and activities. The burden of expending funds for tourism infrastructure may be better placed on commercial service providers who would operate the tourism services under the guidance and supervision of a permitting system. A Specialized Permitting System is a recommendation that will be discussed at length in the updated management plan drafts as well as in our Recommendations.

2. Protection of Ecological Integrity Zone: this zone represented the most restrictive approach and protected the area from virtually all management, human, tourism, or commercial activity. This zone was reserved for the most ecologically sensitive areas in the Park.

3. Tourist Development zone: Discussions focused on where tourism development activities would be permitted and encouraged in order to meet the tourism development objective of the Park. In general, activities were identified for areas along road systems that had already been developed so that additional road construction was unnecessary, and secondly, located where eco-tourism activities and opportunities might be concentrated. This zone was not discussed or identified during either the 2003 or 2004 discussions about Loango, but all agreed that this zone should be examined for its applicability to Loango.

Specific tourism development discussions:

- a. Permitting System: the Lope Hotel eco-tourism guiding has a tourism concession that is operating under a Memorandum of Understanding that was initiated before designation of Lope National Park. The Lope Hotel collects 2000 CFA from each tourist guided into the park on behalf of the National Park System. It is unclear if these funds are returned to the park to assist with Administration of the concession operation. Also, the Lope Hotel has not been required to submit an annual Operating Plan to the Conservator for approval. This is a good example of how a Permitting System could benefit the National Park System. A Special Uses Permit Program would require the Hotel Operator to submit an Application and Annual Operating Plan. Such a system would allow the National Park System to assess appropriate fee structures for National Parks, monitor their flow, and oversee/approve all activities being promoted by concessionaires.
 - b. Archeological sites: this is an issue of particular importance to Lope because of the multitude of Archeological sites present in the Park. An issue for the management plan will be how to preserve these Archeological sites as they are tourism attractions. The balance will be ensuring their longevity while highlighting their significance. The Conservator will have to think how to assure preservation of the park's unique resources (i.e., prohibit guides from pouring water on historic petroglyphs or allowing clients to walk on rock formations containing petroglyphs). See the 'Recommendations' section for further detail on this particular issue.
4. Research Zone: A specific research zone was identified adjacent to the existing WCS research compound to incorporate the long-term research and monitoring sites and maintain the integrity and priority of those ongoing long-term studies.
5. Road Infrastructure: Late in the work session, a full road network analysis was conducted to identify those existing roads in the park that should remain open for some management objective and those that should be closed or at least not maintained and allowed to close to minimize ecological damage from roads and minimize maintenance costs. The workgroup did an admirable and reasoned process to identify existing roads that were needed to achieve

management objectives and meet specific zone needs – research, infrastructure, ecologically sensitive areas, etc. This work should also be conducted at Loango.

Once the zone categories were agreed upon, draft zones were identified as polygons on a map of Lope National Park (See Annex 3). GIS technology was invaluable in the zone mapping process. It also revealed missing or inaccurate data.

3. GIS Integration

Available data was collected from Leonard Akie and Annabelle Honorez and used to make draft management zone maps of Loango and Lope National Parks (see Annex 3) during this USFS trip. GIS datasets were overlaid on satellite imagery and other base maps and the Conservators were asked to delineate management zones around features such as facilities and subsistence fishing areas. A new GIS dataset was created from the Conservators' work and these management zoning maps were given to the Conservators. Large management zone maps were mailed to the Conservators from the US in June. An evaluation of available data, data needs, and GIS software and hardware needs was also done as well as providing a GPS training, instructing on GPS use and extracting to GIS. Please see Annex 2 for a complete list of tasks assigned to individuals to further advance GIS integration.

A proposal has been developed asking ESRI to donate close to \$1 million dollars in software to the Gabon park effort. Currently most people in the region use ESRI's ArcView software, however ESRI is phasing out ArcView and replacing it with ArcGIS. ArcGIS is a considerable improvement over ArcView because of its superior editing tools, ability to display data on one map that are in multiple projects, and its tools for creating metadata and viewing and organizing datasets.

Julie Luetzelschwab of USFS has been developing the grant with WWF and WCS in Gabon. The ESRI grant hopes to provide Arc licenses for WCS, WWF, and several for CNPN and MEF. It would be the largest grant in ESRI's history and a great contribution to the park system in Gabon. The USFS will be a mentor for the grant and will ensure, if the grant is provided, annual progress reports are complete, request additional software if necessary, and also submit reports to waive annual maintenance fees.

C. Strategic and Implementation Planning

In order to provide Conservators with a comprehensive understanding of park planning, management and implementation, the USFS team presented a summary of a recommended park planning process, from the overarching management plan to the on-the-ground implementation. The USFS team stressed that the successful management of a national park will rely on a multi-level planning process. This includes development of a comprehensive management plan (discussed previously), strategic plans, and implementation plans.

1. Strategic Planning: The management plan provides the overarching guide for the management of a national park. Once the management plan is developed, the next step is strategic planning, which will identify what type of specific activities will be done and where, consistent with the objectives, park-wide rules, and zoning defined in the management plan. For example, strategic plans will typically include a Facilities Master Plan that addresses all infrastructure needs for the entire park; a Transportation Plan that outlines all forms of access including roads, trails, airfields, etc. as well as a variety of other components. Please see Annex 1 for a comprehensive strategic plan outline.

2. Implementation Planning: Implementation planning is accomplished by utilizing the information developed in strategic plans. Key components of implementation planning include development of an Operation and Maintenance Plan; development of Annual Work Plans; and development of a Capital Improvements Plan. Please see Annex 1 for more detailed information on Implementation Planning.

By separating out management plans from detailed implementation concerns, the manager does not lose sight of overall park objectives. Such a structure allows for more flexibility when making changes. If a tourism activity has been outlined for a specific zone, a tourism plan would address all of the details related to that particular activity. It does not need to be addressed in the management plan. So, when changes need to take place for that activity, the tourism plan will incur changes, not the entire management plan. The management plan is an overarching document that guides the park according to certain objectives. The strategic and implementation plans detail how to implement the outlined activities and the costs associated with these activities. Therefore, budget and staffing issues won't burden or delay the management plan nor cause the Conservator to lose focus of his/her park objectives by staffing or other detailed issue.

More discussion is required to determine how much detail is required for a plan in Gabon. The United States has a thorough, multi-step process that may not be the most appropriate for an emerging system. Our recommendation is to further discuss what would be an appropriate Strategic and Implementation planning system for Gabon.

IV. Recommendations and Next Steps

This section highlights a number of issues that came up through discussions with Conservators, other National Park System staff, and partners that relate to park management planning, on-the-ground management, and the roles and responsibilities of CNPN and Conservators. Recommended actions are provided.

1. Management Plan Approval Process and Authority

Conservators are not aware of a clear line of authority regarding development and approval of Park Management plans. Additionally, some local authorities believe they have jurisdiction within park boundaries which appropriately belong to the Conservators. As approvals and finalization of plans can be a long process, there needs to be some 'interim' process that allows the Conservators authority to proceed with activities and decisions.

Recommendations:

- Establish a formal policy for interim approval of "draft" National Park Management Plans. Interim approval of "draft" plans must include authorization for Conservators to begin implementation with enforcement authority.
- Establish a formal policy for approval of "Final" National Park Management Plans.
- Establish a policy for revising approved National Park Management Plans. A process needs to be in place to accommodate revisions to plans as they are updated to reflect new information such as updated field data.
- Establish a policy for participative Management Plan development. Development of management plans should include broad participation, especially NGO's, local communities, and partners. Both the park planning and implementation process should have an objection or appeal process submitted to CNPN for review and action.
- Establish a policy for National Park Management Plan implementation authority and discuss with local authorities adjacent to each National Park, so CNPN and each respective Conservator are seen as having a clear authority for management of all resources in the

national parks, implementing park management plans. Additionally, any role appropriate for a local authority must be clearly articulated.

- Establish a transparent appeal process to ensure fair equity in all decisionmaking.
- Establish a permitting system and a policy for how decisions are made on all financial contracts in the parks, be it tourism concessions, infrastructure development. A committee may be an appropriate tool so as to ensure fair assessment in contracts and avoid individual pressure on Conservators.

2. Coordination of and Support to Conservators:

Currently, there is no one on CNPN's staff exclusively assigned to coordinate the day-to-day management of the National Parks and the activities of the Conservators. The Conservators do not have a single contact person with authority to help them resolve park management issues.

Recommendation:

- CNPN hire a staff person who has a thorough understanding of Gabonese government land management processes, with the appropriate technical expertise, to serve as an authority figure in overseeing the National Park System and the day-to-day activities of the Conservators.

3. Supervisory Authority:

Conservators currently do not have supervisory authority over all government personnel assigned to their parks and should have supervisory authority over all government staff assigned to their park to be effective leaders and managers of their respective National Park.

Recommendation:

- Grant complete supervisory control to Conservators for all personnel assigned to National Park units, including those currently under supervisory control of MEF.

4. Loango and Lope Draft Management plans

The draft National Park Management Plans for Loango and Lope National Parks that have been developed during Forest Service mission trips in 2003 and 2004 are not complete and need continued development and refinement.

Recommendations:

- Following receipt of the updated draft management plans from the USFS team, incorporating decisions made during the April/May technical assistance mission, Conservators and their staff proceed with completion of the draft management plans, incorporating public input, and development of a final plan for approval, as follows:

Step 1 - Conservators focus on internal review (USFS team backstopping where appropriate) - revising, if necessary, the draft plan objectives, standards & guides, and zones. When considering zone boundary adjustments, select boundaries that are identifiable in the field (i.e., ecological divides, such as a stream or other hydrological divides, or topographic feature). Field data collection and verification, and GIS database organization at the central office in Libreville should be on-going and monitored by the Conservators.

Step 2 – Provide a copy of the revised draft plans, following internal review, to the Forest Service team for review and comment.

Step 3 – Solicit input from external interested parties (local government officials, village residents, others).

Step 4 – Conservators request CNPN to grant “interim approval” of draft plans and authorize Conservators to begin implementation.

Step 5 – Further develop plan as necessary (gathering information, addressing conflict etc) to prepare “final plan”. Conservators submit “final plan” to CNPN for approval.

Step 6 – Provide for continual Management Plan updates, consistent with CNPN policy (to be developed) as you receive more field-verified data, or to respond to issues generated from external interests.

5. Management of Buffer Zones:

Management responsibility for the designated buffer zones adjacent to Parks, as identified in the Forestry Code, appears unclear. Many of the threats to the National Parks are located outside the Parks' boundaries, making buffer zone management critical to successful management of the Parks.

Recommendation:

- Responsibility for management of the buffer zones by Conservators would provide the highest level of protection for National Park resources. However, if a decision is made to not grant CNPN the management authority for these areas, it is essential that those who are given that authority consult with Conservators regularly regarding management of these areas.

6. Management of Commercial activity – Special Uses Permit Program:

There is no National Park System policy for managing commercial use of National Park System lands. For example, a cellular tower was recently constructed in Lope National Park without approval from CNPN or Lope National Park. The Gabonese government, and the National Park System, should receive a fair fee for use of government/public lands by commercial service providers.

Recommendations:

- Develop and implement a Special Uses Permit Program.
 1. Develop a Special Uses Policy for the National Park System
 - Define length of term for permits, and process for re-issuance (i.e., would a permittee need to compete against other applicants for permit renewal?).
 - Define appropriate activities for permitting (eco-tours, communications/radio transmission towers, other commercial operations)
 2. Develop a fee structure
 - Eco-tour fees should be based on percent of gross revenue received by the operator.
 - Fees for some commercial uses, such as communications/radio transmission towers, may be based on a fixed annual fee.
 3. Consider a policy which allows fee retention (fees, or percentage of them, retained by each park to cover cost of Special Use Permit Program administration).
 4. Develop a Special Use Permit application, Operating Plan form (to be completed by permit holders detailing their annual plan of operations), and Special Use Permit form (requirements and rules applicable to permit holders), to be used by Conservators in managing their park's Special Uses Program.
 5. Develop a "prospectus" template and guideline for use by parks in soliciting tourism proposals.
 6. Place existing commercial service providers, currently under some form of agreement (i.e., Memorandum of Understanding with Lope Hotel – eco-tours), under a new Special Use Permit. Also, request an Annual Operating Plan from each commercial service provider (format to be developed by Conservators and CNPN).
 7. Contact commercial service providers not under any form of agreement (i.e., unauthorized communications/radio transmission tower in Lope National Park) and request that they complete and submit a Special Use Permit Application (application form to be developed by Conservators and CNPN). Proceed with placing them under permit.

7. Loango National Park sport fishing prohibition

The Conservators made a recommendation to prohibit sport fishing by tourism concessions in Louri Lagoon over fears that continued sport fishing would result in an unacceptable decline in sport fish populations. There has been no monitoring or research to indicate that sport fishing in the lagoon is adversely impacting sport fish populations. Therefore, to prohibit the continuation of sport fishing at this time would unfairly impact concession operators businesses and most likely end up in protest from the operators and potentially create an unwarranted hostile relationship between the Loango National Park staff and the concession operators.

Recommendation:

- Allow sport fishing to continue in Louri Lagoon, while monitoring impacts, if any, on sport fish populations. Initiate restrictive measures only after determining an adverse impact on sport fish populations.

8. Pre-existing Tourism Concession: Lope National Park and the Lope Hotel:

The Lope Hotel eco-tourism guiding is operating under a Memorandum of Understanding that was initiated before designation of Lope National Park. The Lope Hotel collects 2000 CFA from each tourist guided into the park, on behalf of the National Park System. It is unclear if these funds are returned to the park to assist with administration of the concession operation. Also, the Lope Hotel has not been required to submit an annual Operating Plan to the Conservator for approval.

Recommendations:

- Following development of a Special Uses Permit Program, in collaboration with CNPN, the Lope National Park Conservator should contact the Lope Hotel owner and request that he complete and submit a Special Uses Application and Annual Operating Plan.
- The Conservator should place the eco-tour operation under Special Use Permit, and charge an appropriate fee (to be developed in cooperation with CNPN in accordance with the approved Special Uses Permit Program fee schedule).

9. Protection of archeological sites

The Lope Hotel eco-tour guides pour water on weathered historic petroglyphs in the park to make them more visible to their clients. This practice will hasten the deterioration of this unique resource.

Recommendation:

- The Conservator needs to set operating standards for the eco-tourism operator, to assure preservation of the park's unique resources (i.e., prohibit guides from pouring water on historic petroglyphs or allowing clients to walk on rocks formations containing petroglyphs). These standards need to be included in the Special Use Permit, officially authorizing the Lope Hotel to conduct commercial tours on the National Park.

10. Development of tourism infrastructure in National Parks

Several Conservators expressed the opinion that the National Park System should develop the light infrastructure needed to facilitate eco-tourism operations in the national parks. They felt that this approach would give them control over the type of facilities constructed in the parks.

Recommendations:

- Development of infrastructure for tourism by the National Park Service would require the commitment of funds that could be much more appropriately spent on park resource management projects and activities. We would recommend that the burden of expending funds for tourism infrastructure be placed on commercial service providers who would operate the tourism services. Conservators should determine the standards regarding development of tourism infrastructure in the parks. A prospectus, developed to solicit

proposals for tourism services, should include the standards which any potential commercial service provider would have to meet in developing facilities within a park. A proponent of tourism services would be required to gain the Conservator's approval for any infrastructure development within a park, and that development would have to be done within the standards established by the Conservator.

11. GIS Data Needs and Organization:

Several GIS datasets have proven to be essential to the park management planning process, primarily roads, trails, villages, infrastructure, and vegetation. Key wildlife areas (e.g. saline sites, bays, etc.), archeology sites, sacred sites, adjoining forest, mineral, and oil concessions, rivers and lakes (including navigability and fishing use), areas used for subsistence, wildlife survey data (e.g. elephant and mandrill telemetry data showing animal use zones), rare plant areas, areas affected by invasive species (including plants and insects such as the South American fire ant), 200,000 scale base maps, and satellite imagery are also important. There is not enough manpower to develop the GIS datasets efficiently and in a timely manner. At present, Leonard Akie of WCS/WWF/CNPN/INC is the only one assigned to the task.

Recommendations:

- Provide Leonard an assistant to help with this task, possibly a student from the local university.
- Provide Leonard a mentor to help guide the process. Annabelle Honorez of WWF-Gamba may be a good candidate since she has been assembling data for the Gamba Complex and is familiar with the data needs. If they could work together to get the data for Gamba organized in a data library, create metadata, and agree on dataset names and attributes, it would serve as a prototype for the rest of the Parks.
- A data dictionary for each layer should be created listing standard dataset names, attributes (fields) and coding information. Datasets for each Park should then match the Gamba data dictionary prototypes.
- Didier Devers, a CARPE GIS specialist based in Kinshasa, would like to create data standards for regional GIS layers and make them available on the University of Maryland's CARPE website. Didier should also be involved in the creation and/or review of the data standards for the Parks' GIS database. Once datasets are complete and verified and include metadata they can be sent to Didier to post on the internet. It may also be considered an achievement to document in the CARPE/USAID grant reports submitted by the NGOs.

12. GIS Datasets and Data Verification:

Leonard Akie and Annabelle Honorez shared several datasets for Gabon including villages and roads. These datasets were used for both the Loango and Lope planning sessions. Some errors were found, including villages that were in the wrong place or that no longer existed and missing roads. GIS is used to support the zoning process, to identify resources and uses of the Parks and adjoining area, and for inventory and monitoring purposes. Currently much of the data is scattered among park researchers, managers, and NGO offices and there is little organization or centralization of the database.

Recommendation:

- GIS layers should be displayed on maps and sent back to each Park so they can be verified by locals familiar with the area. Once error checked, the maps should be returned to the GIS specialist so corrections and updates can be made, and metadata updated. This will also help the Conservators become more familiar with their Park, the surrounding area, and outside influences such as forestry concessions.
- CARPE's regional GIS expert, Didier Devers, offer support and guidance to CNPN's GIS Specialist, Leonard Akie. CARPE could provide GIS training and database organization and standardization support.

- Hire or appoint a GIS Specialist for each Park, or one per group of Parks. Each GIS Specialist would be responsible for collecting, processing and verifying field data and sending it to the central office in Libreville to be incorporated into the Parks' GIS database.
- A CNPN representative should oversee the GIS operations in Libreville to help set priorities and ensure the work is getting completed.
- The Conservators should work closely with their local GIS Specialist to set priorities for data collection and to delegate or help with data verification.

13. Subsequent planning:

Conservators will be confronted with having to implement their management plans, create annual programs of work and associated funding requests even though they have not yet developed strategic plans for activities and programs within their park on which to base their annual planning.

Recommendations:

- Conservators begin development of subsequent plans to help them establish budgets and work plans.
 - a. Begin development of a Tourism Plan
 - Develop a thorough understanding of existing eco-tourism activities (number of clients by month, demographics of past and current tourists, range of operations, etc.).
 - Develop monitoring protocols to measure impacts from eco-tourism activities.
 - Begin monitoring tourism activities (i.e., Loango National Park – monitor Louri Lagoon to measure effects from existing kayak eco-tours).
 - Define potential sustainable ecosystem opportunities.
 - Identify any potential conflicts from existing or potential eco-tourism activities with park management objectives.
 - b. Begin development of a Facilities Master Plan & Transportation Plan (these plans are interrelated).
 - Define which existing transportation routes are essential to meet existing and anticipated needs. Close those determined not needed.
 - Identify which future transportation routes will be needed to meet anticipated park management objectives (tourism, research, etc.).
 - Begin development of a facilities master plan – reflecting current and future needs (for administration, maintenance, research, tourism, etc.).

14. Future Role of the USFS:

The USFS team found there was some ambiguity about the role the USFS will play in providing further technical assistance to the Gabonese National Park System.

Recommendation:

- CNPN in coordination with their on-the-ground partners should develop a terms of reference for USFS involvement to clarify USFS role and encourage/solidify buy-in from park Conservators as well as other organizations working on the park system. As other USG agencies will be also supporting Gabon's National Park system, a terms of reference will ensure coordination among the various agencies and facilitate integration into the overall CNPN plan. USFS wants to make sure their support is complementary rather than duplicative of other actions. It clarifies to everyone what our intended goal and outputs for Gabon are in the long term.

V. US Forest Service Next Steps

The USFS team will develop 2 main products from this mission:

1. Trip report
2. Draft management plans: We will refine and integrate all of the discussions and work done both in Loango and Lope to develop a draft management plan for each park. We noticed many of the issues will be the same for the other parks, with specific refinement according to the park priorities and issues.

The next step for USFS engagement in these two parks would be direct field support, working one-on-one with the Conservators in Loango and Lope, going through problems on-site. We suggest a workshop to begin work with the Conservators in the other parks. As those parks are all at different stages of development, a bare minimum of preparation would include certain GIS layers and basic park information about its unique features and highlights. The Conservators need to spend some time in their park, get settled, and familiarize themselves with the issues at hand. Our team will be far more effective in future missions with a knowledgeable Conservator rather than one who doesn't yet understand his/her park.

ANNEX 1 - Strategic and Implementation Planning

The successful management of a national park will rely on a multi-level planning process. This includes development of a comprehensive management plan, strategic plans, and implementation plans. This section outlines recommendations for strategic and implementation planning.

A. Strategic Planning:

The management plan provides the overarching guide for the management of a national park. Once the management plan is developed, the next step is strategic planning, which will identify what type of specific activities will be done and where. Strategic planning will typically include:

1. Facilities Master Plan (Addresses infrastructure needs for administration, maintenance, research, and tourism).
A well thought out site and facility design and plan will result in infrastructure that is efficiently organized and fits the land, avoids incongruent land uses, and provides architectural and site amenities that blend with the surrounding landscape and local character.
 - a. Facilities planning and design process should:
 - i. Identify the purpose and need for infrastructure facility needs within the Park.
 - ii. Determine the function of each facility – how will it be used.
 - iii. Estimate how many will be using the facility – its carrying capacity.
 - iv. Determine when the facility should be built – is there an immediate need, should the project be phased development, etc.
 - v. Identify existing elements, if any, that can be used or modified, and what else should be included in the design for construction.
 - vi. Through a site analysis process, identify a site that is compatible with the intended use.
 - b. Site analysis should take into consideration the following:
 - i. Solar orientation – if building a structure, consider existing shade opportunities, if any, and design of window to limit solar penetration.
 - ii. Topography – evaluate the suitability of the site’s topography for the proposed project/structure, to avoid the need for considerable site modification.
 - iii. Flora/Fauna – determine if these are any sensitive species using the area planned for construction (game trails, etc.).
 - iv. Views/Vistas – determine if a proposed building can be oriented strategically to take advantage of scenic views.

- v. Noise – determine if there are any nearby activities that generate noise that would conflict with the function of the facility.
 - vi. Existing use patterns – determine if there are existing uses that would be disrupted by construction of the planned facility. (i.e., authorized subsistence uses by local villagers).
 - vii. Prevailing winds – determine if a planned facility can be oriented to take advantage of any prevailing winds (i.e., need to avoid smoke from a nearby savanna area where prescribed burning is scheduled regularly).
 - viii. Drainage patterns – avoid areas prone to flooding.
 - ix. Odors – determine if there are any off-site activities that generate offensive odors.
- c. Visitor Analysis:
- i. Determine the needs of visitors (accessibility, etc.).
- d. Specific Design Considerations:
- i. Health – provide for appropriate and adequate sanitation facilities. Design for ease in cleanliness.
 - ii. Consider visitor and park staff safety (i.e., rails/barriers needed to protect visitors from an environmental hazard).
 - iii. Security – special night lighting to discourage vandalism, strategic locations/orientation to maximize visibility of staff, etc.).
 - iv. Site carrying capacity – design facility to meet existing needs, and provide for future expansion to accommodate future growth.
 - v. Maintenance – consider materials which are long lasting and need little maintenance.

2. Transportation Plan:

Transportation planning considers all forms of access, including roads, trails, airfields, railroads, and waterways to serve a variety of resource uses. It also includes utility corridors. At the Park Management Plan level, transportation planning should include an assessment of the existing transportation network, including the general adequacy of the existing transportation network based on current use patterns and any anticipated changes. Also, the effect of significant planned national park programs or projects on the current transportation system should be evaluated.

At the strategic planning level, an area transportation analysis is performed to address the movement of park visitors, cooperators, and staff for the purposes of meeting park objectives. The analysis includes planning and developing an effective transportation network based on a thorough knowledge of the park's management area direction. The analysis considers the resource and transportation needs over the long term. The objectives of the area transportation analysis are:

- a. Identify the most effective access to serve resource needs, considering their locations, quantities, characteristics, and values.
- b. Minimize costs by developing, operating, and maintaining transportation infrastructure that serves both immediate and long-term needs.
- c. Identify ways to combine and schedule projects that minimize environmental impacts and costs.
- d. Verify the arterial and collector roads and the densities for local roads.
- e. Identify the need and desired locations for trails.
- f. Identify the need for special or unique transportation modes.
- g. Identify management objectives, including design, operation, and maintenance criteria for all transportation systems.

Documentation of area transportation analysis should contain the following items:

- a. Land and resources being served, their locations, expected management activities, and estimated time these activities may occur.
- b. Transportation systems and facilities needed to achieve land and resource management objectives.
- c. Corridor locations and approximate schedule of all transportation infrastructure development.
- d. Transportation infrastructure management objectives, including design, operation, and maintenance criteria.
- e. Capital investment projections for the planned transportation infrastructure development.

3. Tourism & Marketing Plan

National parks in Gabon need to determine their “niche” in the eco-tourism market, and CNPN needs to collaborate with others in the development of a National Park System marketing strategy to attract eco-tourists. This effort will require a thorough “demand” and “supply” analysis, based on the resources available in the parks. Steps in this analysis include:

- a. Demand – Identify the “demand” for the tourism opportunities and experiences in the park. Demand is peoples’ desire or wants for settings, special places, activities, experiences, and opportunities as expressed through their values and personal connection to the land (example – viewing of tropical forest dependent wildlife). Demand may include a desire for:
 - Natural settings & scenery
 - Special places
 - Contact with nature
 - Education
 - Discovery
 - Physical exercise
 - Adventure

- Relaxation
- Social contact with others who have similar interests
- Challenger

Steps in evaluating “demand” include:

- Determining and examining the market area (where would the visitors come from).
- Examining values (what do the visitors value).
- Projecting future demand from existing demand (what are anticipated future trends).
- Conducting comparative analyses to determine the “gap” of unsatisfied or unfulfilled demand.
- Consideration of other socio-economic information (such as demographics).

- b. Supply – Identify the “supply” of settings, activities, facilities, and experiences the park can sustainably offer, at a quality level. Examples may include natural features, heritage & cultural sites, unique scenic settings, and wildlife viewing.

Steps in evaluating “supply” include:

- Determine what tourism opportunities you can provide on a sustainable level.
- Identify what other options exist for potential visitors.
- Determine what other providers currently exist for the same opportunities and experiences which you have to offer.
- Estimate future providers for the same opportunities and experiences which your park has to offer.

- c. Niche – Identify where to you want to be as a provider of tourism – the “niche” concept, which forms the basis for establishing management objectives. To determine your park’s “niche,” compare the current and potential supply of tourism assets with existing and projected demand. A park’s “niche” will be where it’s eco-tourism opportunities overlap with a demand for those opportunities.

In defining and embracing the tourism “niche,” the National Park System should:

- Focus on sustainable delivery of visitor opportunities and services.
- Develop a range of visitor opportunities and experiences consistent with their “niche.”
- Manage for a physical, biological, and social balance within each park.

- Not try to be everything to everybody – focus on what is special for each park.
 - Collaborate between parks to as to compliment each parks “niche.”
- d. Plan – A park’s Tourism Plan must be developed in collaboration with other national parks in the National Park System. The plan should:
- Identify the national park’s niche.
 - Define the types of tourism opportunities, consistent with the park’s niche, which can be provided on a sustainable basis.
 - Assess the existing infrastructure (both internal and external) available to support eco-tourism activities.
 - Identify additional infrastructure needed to facilitate a sustainable eco-tourism program
 - Define a strategy to provide the necessary infrastructure and services to meet future needs (i.e., concession operations inside the park, external service providers, etc.).

4. Communications Plan

Each national park (as well as CNPN) should have a Communications Plan to address both internal and external communications needs. Key components include:

- a. An opportunity or problem statement.
- b. Goal and objectives of the Communications Plan
- c. Audience identification – who are you trying to reach.
- d. Key messages – what are the essential messages you want to convey.
- e. Communication strategy – how to you plan to convey the information (type of media).
- f. Evaluation following implementation– to determine if goals and objectives were accomplished.

5. Interpretive and Education Plan

An Interpretive and Education Plan will help visitors and residents form a positive intellectual and emotional connection with the national park’s resources, building a constituency of supporters for stewardship of the National Park System. It will:

- a. Achieve management objectives by connecting visitors and residents with national park resources and resource issues.
- b. Include a comprehensive analysis of all national park interpretive opportunities.
- c. Define the array of interpretive services, facilities, and programs desired to communicate the national park’s purpose, significance, and key themes.
- d. Describe the key interpretive themes for the park.

- e. Outline a strategy for implementing the plan, including staffing and budget.

6. Law Enforcement & Visitor Security Plan

A Law Enforcement & Visitor Security Plan is essential for effective stewardship of national park resources and protection of visitors and staff. It should include development of strategies to address the following issues:

- a. Poaching of game (bush meat).
- b. Unauthorized use of national park resources (such as the recent construction of an unauthorized communications tower in *Lope National Park*).
- c. Security & integrity of the park's boundary (how to deal with encroachments).
- d. Visitor security & safety concerns – both from external sources (i.e., criminal activity) and internal sources (i.e., confrontations with wild animals).
- e. Security of park administrative facilities.
- f. Search and rescue – procedures set in place to initiate a search and rescue mission for lost tourists, and render first aid if needed.
- g. Dealing with sick or injured staff or visitor – procedures set in place to initiate first responder first aid, evacuation, and transport to appropriate medical services.

For each issue addressed in a Law Enforcement & Security Plan, the following should be provided:

1. Specific tasks to be done.
2. Identification of the responsible person(s) to carry out the tasks.
3. Type of training needed by staff to carry out the plan (i.e., first aid, search techniques, evacuation of injured persons, law enforcement).
4. Cooperative relationships with external organizations that are essential to accomplishing the tasks.
5. A timetable for implementation – what can be done immediately; what can be phased.
6. Determine staffing needs and budget.

7. Sign Plan

An integrated sign plan is essential for each park. It is recommended that common sign design templates and design elements be adopted for all signs in Gabon's National Park System, to establish uniformity across the System. A park's "family of sign," developed to address visitors' needs, should include the following, as applicable:

- a. Entrance Portal Sign – Announces the "psychological" entrance to a park. They may not be located at the actual park boundary, but are best located in places that provide the best setting for welcoming visitors to the park.

- b. Directional Signs – Used to guide visitors by letting them know how to get where they need to go.
- c. Information Signs – Used to post regulations, information, and other changeable materials and announcements.
- d. Orientation Signs– Typically have a map as the focus, and contain information a visitor needs to know on arrival – including the lay of the land, location of services, description of resources, and opportunities keyed to the map. The signs contain a “You Are Here” indicator so visitors know where they are in proximity to park attractions and features.
- e. Trailhead and Trail Marker Signs – Trailhead signs are used to denote the beginning of a trail, and marker signs are used where appropriate and needed to mark the trail location along the route.
- f. Interpretive Signs – Used to tell the stories of the land and its people. These signs typically use more graphics (illustrations) than text to captivate the visitor.

A park’s Sign Plan should include design and layout for all signs, a map showing the location of each sign within the park, a schedule for maintenance and replacement, and a cost estimate for initial fabrication and installation and routine maintenance.

8. Resource Activity Plans

Strategic plans should be developed to guide all resource activities within each park, such as research, fish and wildlife resource management, heritage resources management, invasive species monitoring and control, and ecosystem restoration. Each plan should identify the tasks to be accomplished, a proposed schedule for accomplishing those tasks, estimated staffing and resource needs to accomplish those tasks, and a cost estimate.

B. Implementation Planning

Implementation planning is accomplished by utilizing the information developed in strategic plans. Key components of implementation planning include development of an Operation and Maintenance Plan; development of Annual Work Plans; and development of a Capital Improvements Plan.

1. Operations Planning – A detailed Operations Plan is essential for effectively planning the operation of a park’s facilities, programs, and sites. It will also provide critical information used in preparing budget proposals. Example:

Visitor Facilities - Operations

1. Visitor Center – will be staffed and open for public access 7 days per week, January through September, and 5 days per week (Saturday through Wednesday), October through December, 8 hours per day, 9:00am – 5:00pm.

Staffing needs: 1 Visitor Information Specialist, 1 Interpretive Specialist.

2. Maintenance Planning – A maintenance plan should be developed for a park’s structures, roads, and trails. The plan should be detailed and set maintenance standards, and provide a schedule for all recurring maintenance activities (i.e., those required daily, weekly, monthly, and annually, as appropriate). Example:

Visitor Facilities – Maintenance

1. Visitor Center

Daily Tasks (Example)

a. Restroom – clean daily

Task #1 – toilet fixtures, building, and other restroom facilities are scrubbed, scraped, swept, disinfected.

Standard – visitors are not exposed to human waste.

Task #2 – toilet paper and paper towels are replaced, as appropriate, in all dispensers.

Standard – all dispensers are stocked with toilet paper and paper towels.

b. Exhibit area – clean daily

Task #1 – sweep floor.

Standard – there is not evidence of litter on the floor.

Weekly Tasks (Example)

a. Visitor Center building

1. Windows – clean all windows.

Standard – windows are free of dirt and smudges.

Annual Tasks (or sooner if needed) (Example)

a. Restroom

Task #1 – paint interior walls.

Standard – all interior walls receive new coat of paint.

Task #2 – replace any cracked or damaged fixtures

Standard – fixtures are not cracked or damaged.

3. Annual Project Work Planning – Prepare annual project work plans for all work to be accomplished in a fiscal year and for use in preparing budgets. Annual project work plans should identify all resources needed to accomplish the work identified in operations and maintenance plans for the fiscal year being planned, including:

- a. Staffing needed to accomplish the work (for each employee - number of days planned, including paid holidays as applicable, and salary).
- b. Training needs for staff.
- c. Uniforms for staff.
- d. Materials and supplies for accomplishing all administrative and maintenance tasks (such as paper products, cleaning materials and supplies, lumber to make repairs to structures, paint, etc.).

- e. Equipment needed to perform the operations and maintenance activities – vehicles, fuel for vehicles estimated on an annual basis, tools, etc.
- f. Costs of any contracted services.

2. Capital Improvement Plan

A Capital Improvement Plan allows the conservator to plan for the orderly development of infrastructure to meet park needs. The Capital Improvement Plan is a schedule of planned improvements, phased over time. The Plan should be:

1. Based on the park's Facilities Master Plan.
2. Project phased development needed over time.
3. Provide a foundation for preparing budget requests.

ANNEX 2 – GIS TASK LIST

USFS Park Management Plan Mission to Gabon

April-May, 2004

Julie Luetzelschwab, August 5, 2004

The management planning process will be more efficient if an updated, organized GIS database for the Parks is available. Several tasks including collecting, verifying, standardizing, and organizing GIS datasets still need to be done. Below is a list of tasks and a point of contact for each task.

CNPN Representative

- Ensure tasks are getting done on a bi-weekly basis

Leonard Akie

- Collect GIS layers from Parks' GIS Specialists (Lope = Boo, Gamba = Annabelle, Ivindo = Edwige, WWF = Rufin), especially GPS roads, infrastructure, villages, etc.
- Create metadata for each layer
- Organize GIS layers with metadata into a data library on one computer. Library structure should be the same on all Park computers to make finding and sharing data and map projects easier
- Create an Excel spreadsheet listing all available layers, where they are located on Leonard's PC, source info, and the date the layer was last updated. Keep the spreadsheet updated and share with all Parks.
- Create a large map of each Park with best available data and have locals check accuracy. Make necessary corrections to GIS layers. Print final map for each Park which can be used by Park conservators for zoning. Find out from Rufin where he gets wide format plotter paper.
- Work with Annabelle, Rufin, and Didier to create standards for GIS datasets, including standard layer name, attributes (fields) and codes, projection, and update process. Create data dictionary pages for each GIS layer.
- GIS layers should be edge matched (e.g. Park boundaries, streams, and Forest concessions should line up)
- All GIS layers should be in one projection (Geographic WGS84 may be best to make sharing regionally with CARPE and other partners possible)
- All layers should be copied to DVD and sent to each Park and to CARPE (Didier)
- Base layers such as 50k, 200k, 250k quad maps and remote sensing imagery all in the same projection should also be kept in the data library and be copied to DVD and shared with each Park
- Obtain new datasets including:
 - Lope archaeology sites from Richard Oscisly
 - Elephant telemetry data from Steve Blake
 - Complete 2003 Census/village database from INC
 - Mineral concessions
 - GeoTIFFs of all new 50k and 200k maps
 - Landsat imagery from Univ. of Maryland/Didier

Didier Devers/CARPE

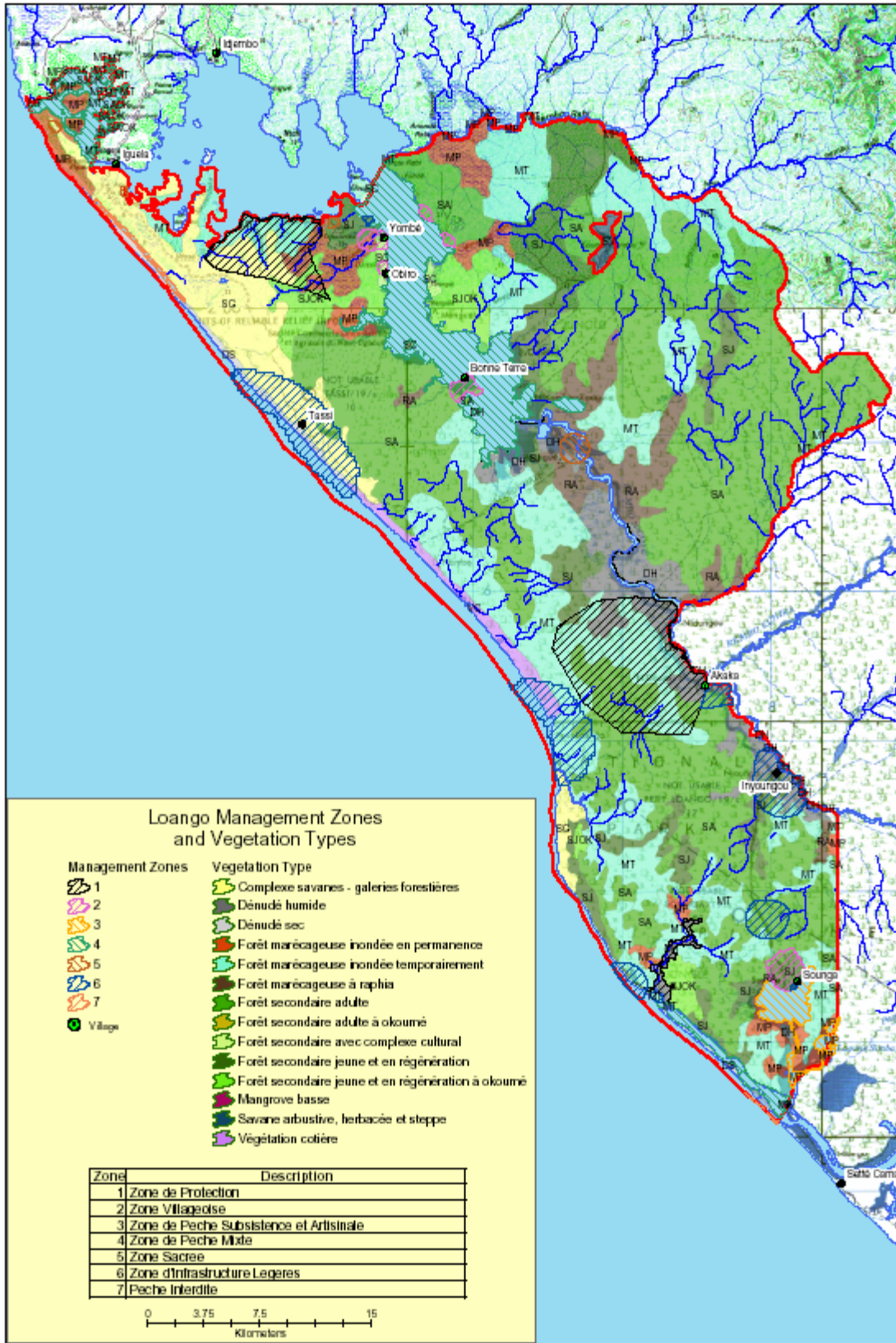
- Provide ArcGIS training (starting with ArcGIS train the trainer)
- Be involved in data standards and organization process
- Provide mosaiced landscape Landsat imagery and other requested data to Leonard Akie
- Provide ArcGIS user support, including troubleshooting installation problems and user's questions
- Work with Parks to post GIS data and maps on the internet

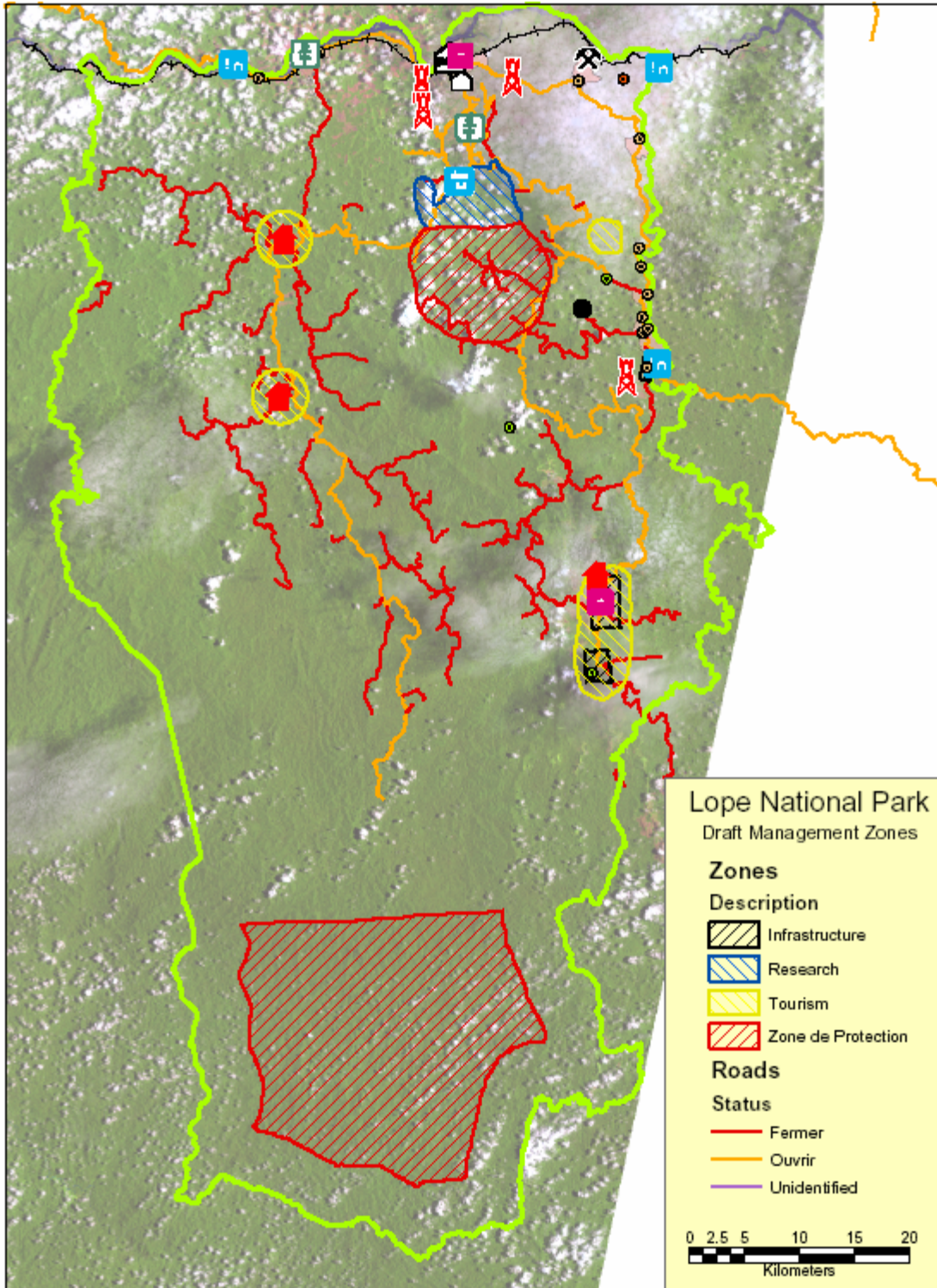
Leonard, Annabelle, Rufin, Edwige, and other GIS Specialists

- Be involved in data standards and organization process
- Provide GIS datasets to Leonard and help update existing datasets
- Attend ArcGIS Train the Trainer training
- Conduct ArcGIS training for other users
- Install ArcGIS on GIS users' computers

USFS GIS Specialist/Julie Luetzelschwab

- Mentor ESRI grant for Parks ArcGIS software
 - Deal directly with ESRI to secure the grant and arrange for shipment to Gabon
 - Keep in touch with Parks Project and monitor usefulness of software and request additional software or ESRI online training as needed
 - Submit annual updates to ESRI from Parks Project (report and maps illustrating how the software is being used)
 - Contact ESRI France for French language update donation
 - Help resolve maintenance fee – if it can be waived (may require annual application)
- Research ArcGIS training opportunities
 - Contact Didier, CARPE Kinsasha (can teach ArcGIS?)
 - Contact WRI Cameroon (GIS expert – knows ArcGIS?)
 - Contact ESRI international network for French trainer (WCS/WWF may only need to pay travel and per diem)
 - Send USFS ArcGIS I & II training packages to Annabelle
- Data
 - Obtain Landsat imagery from UMD, and 90 meter digital elevation model (DEM) put on DVD and mail to Leonard and Annabelle (DONE June 2004)
- Research Vegetation Classification options for Parks
 - Contact Nadine LaPorte – availability, status?
 - Contact Chris Wilkes – availability, status?
- Print and mail to Gabon large maps of new draft zones for Lope and Loango
- Be available via email (jluetzelschwab@fs.fed.us) for ArcGIS software support and specialized data needs





ANNEX 4 – List of Participants

The following persons participated in the Loango Management Plan Discussions:

Roger Boussougou (MEF/CNPN)
Augustin Mihindou (MEF/CNPN)
Joseph Ngowou (MEF/CNPN)
Wolf (Eki) Waitkuwait (PSVAP/CNPN)
Rene Adiahenou (CNPN)
Omer Ntougou (CNPN)
Franck Ndjimbi (CNPN)
Aurélien Mofouma (CNPN)
Bas Huijbregts (WWF/Gamba)
Manacé Mba (WWF/Gamba)
Annabelle Honorez (WWF/Gamba)
Edward Truter
JG Collomb (WCS)
Roger Azizé (Operation Loango/WCS)
Julie Luetzelschwab (USFS)
Chris Iverson (USFS)
Don Fisher (USFS)
Melissa Othman (USFS)

The following participated in the Lope Management Plan Discussions:

Roger Boussougou (MEF/CNPN)
Augustin Mihindou (MEF/CNPN)
Joseph Ngowou (MEF/CNPN)
Wolf (Eki) Waitkuwait (CNPN)
Kate Abernethy (CIRMF)
Anicet (ECOFAC)
Lee White (WCS)
Eric Chehoski (WCS)
JG Collomb (WCS)
Julie Luetzelschwab (USFS)
Chris Iverson (USFS)
Don Fisher (USFS)
Melissa Othman (USFS)

The following participated in the GIS sessions:

Julie Luetzelschwab (USFS)
Leonard Akie (WCS - CNPN)
Annabelle Honorez (WWF/Gamba)
Fiona Maisels (WCS)