



BIODIVERSITY ADVISORY COMMITTEE

2ND MISSION REPORT

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29 November-13 December 2015

Biodiversity Advisory Committee: 2nd Mission Report

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For and on behalf of the Biodiversity Advisory Committee



Signed:

Position: Team Leader, Biodiversity Assessment Committee

Date: 22 February 2016

This report is based on the second mission of the Biodiversity Advisory Committee (BAC) undertaken to perform the Scope of Works (the Services) in accordance with professional standards of competence and integrity having due regard for the nature and purposes of Environmental Management Office of the Nam Ngiep 1 Hydropower Project (the Project) during the term of the Consultancy Agreement (the Agreement).

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1. INTRODUCTION

BAC members Dr. Ramesh Boonratana (RBZ) and Dr. Pheng Phengsintham (PP) participated in the second mission from 29 November to 13 December, and the third BAC member Mr. Robert J. Timmins (RJT) joined the mission from 6-11 December (see Appendix 1). The second BAC mission overlapped with the missions of the International Advisory Panel (IAP), Lenders' Technical Advisor (LTA) and Asian Development Bank (ADB) from 6-13 December.

Among the activities carried out during BAC's second mission included participating in a series of presentations and discussions on the overall progress on aspects relating to biodiversity conservation efforts for the NNP1 watershed and potential offset site(s); participating in the de-briefing session by the biodiversity offset sites survey team and review the team's draft report; assisting and participating in a series of meetings and workshops with the IAP, ADB, MoNRE, and DFRM among others; and participating in a field trip to the project site and the proposed resettlement area.

Due to cropping issues that either affected the analysis of the findings and observations made during the mission or which required BAC's priority attention, submission of this report was inevitably delayed.

2. BIODIVERSITY MANAGEMENT PROGRAM UPDATES & PROGRESS

A series of presentations were delivered by (and simultaneous discussions with) NNP1-EMO (Dr. Hendra Winastu [HW] and Souvanny Ounmany [SO]) on 30 November 2015 on:

- updates on activities carried out in between BAC's first and second missions;
- EMO's responses (including actions undertaken) to recommendations and suggestions made by BAC during the first mission (see first mission report);
- EMO's responses (including actions undertaken) to issues raised by BAC during the first mission (see first mission report); and
- on other issues that arose in between BAC's first and second missions.

However, given the nature of the findings and issues; the presentations by the ground-truthing of the proposed biodiversity offset sites team, the NNP1 watershed management plan team, and the NNP1 watershed management sub-plan team; and new information received on a daily basis, these discussions continued until 4 December 2015.

Overall, BAC is satisfied with EMO's ability to respond to BAC's recommendations, suggestions, queries, and requests. Some of BAC's recommendations and suggestions could not be addressed by EMO as these are understandably beyond EMO's jurisdiction. BAC and EMO will further continue to brainstorm (likely with those who can influence decisions and policies) as to the 'best' possible ways and means to overcome gaps, issues, and constraints to effective biodiversity conservation in the NNP1 watershed and offset site.

3. BIODIVERSITY OFFSET SITES & GROUND-TRUTHING SURVEYS

3.1 Background

A briefing on the results of the rapid ground-truthing surveys of the potential biodiversity offset sites carried out in Xaysomboun and Bolikhamxay provinces was delivered by Dr. Chanthavy Vongkhamhaeng (CV) to BAC and EMO, followed by discussions on biodiversity offset site issues. A draft report (Duckworth & Vongkhamheng, 2015) was submitted to NNP1-EMO and BAC on 4 December 2015.

Prior to contracting CV and his team, there was one other bid for developing the BMSP – received for BAC’s review on 24 September 2015. Upon reviews, BAC however accorded the bid at no more than 5 points (out of a total of 10 points), as it was unclear from the proposal (and their CVs) whether the faunal experts were highly familiar with the Lao fauna, and that the methodology proposed exhibit some flaws. BAC further recommended a competent team be directly recruited to ensure that the consultants comprise those with appropriate competence and extensive experience specific to the tasks identified.

3.2 Results of Proposed Offset Site Surveys

Ground-truthing surveys were carried out in Phou Sod and Phou He (Xaysomboun Province), and Zone 3 (Bolikhamxay Province). From the biodiversity offset point of view, none of the three proposed sites surveyed have any potential to achieve either a ‘No Net Loss’ or ‘Net Gain’ to offset the project’s impacts in the NNP1 Watershed (Duckworth & Vongkhamheng, 2015).

Phou Sod is small (217 km²), fragmented, easily accessible, has low biodiversity value, and threatened by hunting, trapping, agricultural expansion, logging, copper mining, infrastructure development, and other detrimental activities. Phou He is even smaller (145 km²), and suffers from issues described for Phou Sod, albeit at a higher intensity. In addition, only c. 25% of the site is covered with natural vegetation. Among the three sites, Phou Sod was considered the least worthy biodiversity offset site candidate.

The third proposed site (343 km²), referred to as Bolikhamxay Zone 3, is the largest of the three proposed offset sites. Two other zones, zone 1 and zone 2, also in Bolikhamxay Province were proposed, but remote analysis indicated that they were not worthy of ground-truth surveys. The Bolikhamxay Zone 3 adjoins the Phou Sithone area (142 km²), an area considered important due to the discovery of Saola in 2010. However, despite adjoining the Phou Sithone area and the 485 km² Phou Sithone Endangered Species Conservation Area, yet the ground-truthing survey did not yield results to justify the Bolikhamxay Zone 3 as a potential offset site.

Hence, none of three proposed sites surveyed had any potential to be considered as a biodiversity offset site as they do not meet the biodiversity site selection criteria. Nevertheless, they likely have significant ecosystem functions at the local level, therefore should nevertheless receive some level of protection at the provincial or district level.

3.2.1 Recommendations

1. BAC recommends that GoL and/or provincial authorities, possibly with the assistance of local academicians, look into the value of the three sites in terms of

their ecosystems functions/services within the greater landscape, and if they have some significant/potential contribution to the greater landscape and to the well-being of the humans living in the greater landscape, then they deserve some level of protection and management.

3.3 Nam Mouane Potential Biodiversity Offset Site

Discussions with EMO, GoL, and provincial authorities during this mission indicate that all parties acknowledged and accepted the findings (section 3.2), and were ready to move forward with another potential biodiversity offset site, and have re-proposed the Nam Mouane Watershed in Bolikhamxay Province. The Nam Mouane Watershed (primarily the Nam Mouane-Nam Xan area) covers about 77,000 ha of apparently contiguous and relatively undisturbed natural habitats, and comprises two sub-watersheds, the Nam Chouan-Nam Xan to the west and Nam Mouan-Nam Gnouang to the east.

The re-proposed site at 77,000 ha covers a smaller area compared to the original proposal (in July 2015) at 524,409 ha. Nevertheless, this re-proposed site is contiguous with the Pu Mat National Park in Vietnam, which if valid as an offset site, will effectively increase the total area available for conserving biodiversity through the increased availability of habitats for wildlife, a larger gene pool, and increased resilience to adverse edge effects and stochastic events.

The Nam Mouane Watershed was initially proposed by the provincial authorities in July 2015, but later withdrawn due to the proposed Nam Mouane 1 and 2 hydropower projects, informed through an official notification from BLX Province (Letter No. 1294/PDNRE.BLX dated 31 July 2015). BAC, during the first mission (21-31 July 2015), made a preliminary analysis of the site and concluded then that the site appeared to likely make an ideal biodiversity offset site and that it may well serve more than the desirable 'Net Gain'; however, this was still subjected to a ground-truthing survey for verification (see BAC, 2015).

Duckworth & Vongkhamheng (2015) likewise points to the Nam Mouane Watershed (in their text referred to as "*the Saola Priority Area near Lao-Vietnamese border*") as "*likely to hold a large tract of transitional wet evergreen forest and all the attendant special species, including potentially the world's most important population of Saola.*" Duckworth & Vongkhamheng (2015) goes on to say "*Were it an NPA, on potential contribution to averting global species extinctions of land fauna and flora it would probably rank among the best in the country*".

Furthermore, there are currently enough indications to be hopeful that the site has yet to be severely depleted of ground-dwelling large or arboreal mammals, and large-bodied birds. There is thus good reason to consider the site to have high potential, but this must be confirmed by appropriate ground survey.

3.3.1 Recommendations

1. BAC recommends, because of its high potentiality, that Nam Mouane Watershed be investigated as soon as possible, to: (i) avoid the rainy season, which would inevitably put all field work to a standstill; (ii) avoid further delays in selecting a suitable offset site, thereby delaying many other aspects of the project; and (iii) allow other potential site(s) to be investigated soon (before the rainy season) should the Nam Mouane Watershed prove to be unsuitable as an offset site.

2. BAC recommends, because of the stakes involved (particularly because of the extensive delays) and because of the size of the proposed area, that the survey be somewhat more intensive and extensive than the earlier ground-truthing surveys, i.e. employing 2-3 sub-teams in 2-3 weeks over a larger sampling area (than previous ground-truthing surveys), and aided by remote infrared photographic equipment.
3. BAC recommends that the survey team (excluding field assistants) to comprise 2-3 field experts that are:
 - very familiar with Lao large mammals, in particular primates, carnivores, and ungulates (preferably those reported for Say Phou Luang-Troung Son Range¹);
 - skilled at detecting and identifying species both by direct sighting and from other tell-tale evidences (vocalization, feces, tracks, feeding signs, etc.);
 - preferably also semi-skilled detecting and identifying birds and reptiles.
4. BAC also recommends to include in this team an individual well-trained in gathering village-based information on wildlife found in the Nam Mouane Watershed, who is very familiar with Lao wildlife, their morphological descriptions, and the species- or genus-specific behaviors. In addition, that must be fully aware that in Lao:
 - a species can be referred to by several different vernacular names;
 - some of the vernacular names may refer to other species in other parts of Lao;
 - some vernacular names may refer to different age group or sex of the same species;
 - not all Lao ethnic groups are familiar with Lao vernacular names of species.
5. BAC wish to emphasize that the expert tasked to compile and analyze the findings and observations must have a full grasp of the primary objectives of the survey, the significance of biodiversity offset, and the biodiversity offset selection criteria.
6. To better assist detailed survey planning of the offset site(s) and determine future the baseline survey needs BAC recommends that NNP1 acquire:
 - Rapid Eye Imagery from late 2015, for determining the extent of road development and logging activity, crucial for the site suitability assessment.
 - Recent aerial photography, for allowing detailed review of habitat types.
 - Digital Elevation Model (DEM)
 - Scans of historical 1:50,000 maps (should be available in Lao, but can also be acquired freely from USGS.ORG)
7. In essence, BAC recommends that comments by BAC made to proposals for carrying out the ground-truthing surveys be considered, if found to have merit.

3.4 Issue: Proposal of Khoun Xe Nong Ma PPA as a Biodiversity Offset Site

Lengthy discussions were made during the second mission over the proposal by William Robichaud (WGR-ADB) and RJT and supported by Dr. Kathy McKinnon (KM-

¹ The Annamite Range is referred to as Say Phou Luang in Lao PDR, and as Troung Son Range in Vietnam.

IAP) and Dr. Vijay Joshi (VJ-ADB) for the 680km² Khoun Xe Nong Ma Provincial Protected Area (PPA) in Khammouane Province to be considered as a potential biodiversity offset site. This led to IAP's recommendation that it would be useful to carry out ground-truthing surveys in Khoun Xe Nong Ma PPA (and other potentially suitable sites outside the project provinces) in the event that the Nam Mouane Watershed is found to be unsuitable as an offset site.

In addition, IAP further recommended ground-truthing surveys in the Khoun Xe Nong Ma PPA be carried out in parallel with the ground-truthing surveys in the Nam Mouane Watershed because of time constraints and limited options within the project provinces. It was further proposed by WGR that a portion of the funds allocated to the NNP1 biodiversity offset site be allocated to Khoun Xe Nong Ma PPA should both the Nam Mouane Watershed and the Khoun Xe Nong Ma PPA be found suitable.

However, despite the potentially high biodiversity value of Khoun Xe Nong Ma PPA, and its potential as a biodiversity offset site; but its location being outside the project provinces will likely raise objections from GoL and the project provinces (and actually did raise objections from some sectors). Such objections might also lead to unwanted conflicts between project provinces with Khammouane Province, and GoL will very likely not take this kindly. Moreover, some sectors have indicated they are beginning to feel that GoL and the project provinces are no longer beneficiaries, but are being held 'hostage' despite their efforts and willingness to comply (albeit not to satisfaction).

Nevertheless, should no suitable offset site be available in the project provinces, due to its inability to meet the biodiversity site selection criteria or other reasons, then it will necessitate locating one outside the project provinces. Serious efforts would then be needed to clarify and justify to GoL and the project provinces, and gain their support.

Simultaneously, equally serious thoughts must be given to the *IUCN Biodiversity Offsets Policy* with respect to the offset criteria before even considering pursuing the matter with GoL, the project provinces, and Khammouane Province .

According to item 10.2 Additionality of the IUCN Biodiversity Offsets Policy:

"A biodiversity offset must result in a biodiversity gain that is additional to that which would have occurred without the offset taking place. The expansion of existing protected areas and creation of new protected areas can be valid biodiversity offsets, so long as they do not displace or reduce other existing or future public sector funding. There is high risk that the use of offsets to fund existing biodiversity conservation commitments, such as the administration of protected areas, could lead to 'cost shifting' and to an erosion of conservation funding, including budgets for the protection and management of protected areas. Therefore, offsets schemes must be designed in such a way as to minimize this risk. In countries where it is reasonable to expect commitments for new protected area designations and improved protection and management of existing protected areas to be met and adequately funded without a contribution from biodiversity offsets, there should be a commitment that no cost shifting or budget displacement will take place.

Where existing or proposed biodiversity conservation commitments are unlikely to be met, offsets may be a useful way to make progress towards meeting those commitments. In all cases, national policies should be designed to move away from the use of offsets to help achieve existing biodiversity conservation commitments, and ensure that any funding for conservation is not dependent on the destruction of biodiversity elsewhere."

Hence, given that Khoun Xe Nong Ma is a provincial protected area with Kreditanstalt für Wiederaufbau (KfW) Development Bank already operating there, therefore should Khoun Xe Nong Ma PPA be selected as an offset site, then *“there is high risk that the use of offsets to fund existing biodiversity conservation commitments, such as the administration of protected areas, could lead to ‘cost shifting’ and to an erosion of conservation funding, including budgets for the protection and management of protected areas.”*

Further, despite the time constraints, to carry out ground-truthing surveys at both the Nam Mouane Watershed and the Khoun Xe Nong Ma PPA in parallel raises a few issues (besides the added costs involved). Firstly, although there are a number of trained individuals to carry out biodiversity surveys, not many are very familiar with Lao wildlife, type and nature of threats, complexity of Lao names of species, and the biodiversity offset selection criteria. Hence, to survey both sites in parallel would mean fielding two highly capable teams, which in reality, might be difficult to acquire for the reasons mentioned, and a consideration must also be made with respect to the teams’ availability.

3.4.1 Recommendations

1. BAC does not recommend that ground-truth surveys at both potential sites be carried out in parallel.
2. BAC recommends that Khoun Xe Nong Ma PPA be subject to ground-truth survey only after the ground-truth survey in Nam Mouane Watershed clearly shows that it is not acceptable as an offset site.
3. BAC further recommends that the process seeking a consensus among and approval from GoL, project provinces and Khammouane Province to initiate ground-truth survey at Khoun Xe Nong Ma PPA only if the Nam Mouane Watershed is not acceptable as an offset site, to avoid potential conflicts among all parties and high expectations from Khammouane provincial authorities.
4. To address IAP’s concerns for time constraints and limited options within the project provinces, therefore BAC recommends that the ground-truth survey in Nam Mouane Watershed be carried out soonest possible, ahead of the proposed March 2016 for both sites.
5. BAC does not recommend splitting up the funds allocated to the offset site to Khoun Xe Nong Ma PPA. However, all funds (for offset site) should be allocated to Khoun Xe Nong Ma PPA (if found suitable) only if Nam Mouane Watershed and other sites within the project provinces prove unsuitable. Again, it must emphasized that a clear understanding and consensus must be obtained from all parties first (with respect to establishing an offset site outside the project provinces) before proceeding with the other aspects.

3.5 Issue: Biodiversity Expertise for Ground-truthing Surveys

It was suggested by WGR and KM that having experienced field experts highly familiar with Lao wildlife (such as William Duckworth [WD] or RJT) traverse portions of the proposed offset site for 2-3 weeks could satisfactorily determine the site’s suitability as a biodiversity offset site. BAC generally agrees with this view, as a number of protected areas worldwide were, in the past, established employing such methods.

However, as RJT is a BAC member, therefore his participation in the ground-truth surveys would constitute a conflict of interests.

However, despite the use of competent and skillful experts, there is a remote possibility that the team might either recommend the site's offset suitability when the site might actually not meet the minimum 'no net loss' requirement, or probably even worse, conclude the site's offset unsuitability when the site actually contain high biodiversity values, but somehow missed during the survey.

Hence, given the stakes involved, BAC considers that such efforts should be further strengthened by employing specific tools to assist in recording elusive animals or those whose secondary evidence are neither distinctive or familiar to the experts.

3.5.1 Recommendations

1. BAC therefore recommends that a small number of camera-traps (c. 10-20% of that expected to be employed for a biodiversity baseline survey) to assist the field experts' wildlife detection and identification, and verification of the site's potentiality as a biodiversity offset site.
2. BAC acknowledges WD and RJT's expertise in carrying out biodiversity surveys, especially in the Say Phou Luang-Troung Son range, and recommend that they partake in the ground-truthing surveys.
3. To the above point, BAC recommends that RJT's role in BAC be absolved to enhance his contribution on assisting the survey team in carrying out the ground-truthing surveys, and possibly the biodiversity baseline survey of the selected offset site.
4. No matter what decision is made, BAC recommends that WD's expertise be acquired for recommendations 3.3.1-3 and/or 3.3.1.-5, given his highly satisfactory contributions to the NNP1 Watershed biodiversity baseline survey and the earlier ground-truthing surveys.

3.6 Issue: 'Saola Priority Areas'

Frequently, the potential biodiversity sites were referred to as 'Saola Priority Areas'. Saola Priority Areas are areas identified by the Saola Working Group (SWG) of the IUCN SSC Asian Wild Cattle Specialist Group (<http://www.savethesaola.org/>) as sites with (known/potential?) Saola presence prioritized for new investment.

Referring to the potential biodiversity sites as 'Saola Priority Areas' might unintentionally lead to high expectations of the presence of viable Saola populations in the sites. Thus, there is a risk that survey efforts might inadvertently focus on Saola rather than the total biodiversity value of the potential biodiversity offset sites, and subsequently the analysis of the survey findings might likewise focus on Saola rather than the biodiversity value of the site.

Hence, there is a risk that the actual biodiversity value of the potential site might be dismissed should ground-truth surveys show the absence of Saola or that the remaining (Saola) individuals are deemed on the verge of extirpation due to ongoing or potential threats; thereby leading to the site being rejected as an offset site even when the site could potentially meet the 'No Net Loss' or 'Net Gain' criteria.

Alternatively, the site might be selected based on the presence of the Saola only when in reality it could not meet the 'No Net Loss' or even 'Net Gain' criteria, possibly

because of its lower (total) biodiversity value, or species existing at below the minimum viable populations, or habitats are severely threatened and impacted.

3.6.1 Recommendations

1. BAC therefore recommends that all potential biodiversity offset sites and the selected site(s) be referred to by the names that GoL and provincial authorities traditionally and currently know them by. It carries little logic should the Nam Mouane Watershed (if it fulfills the selection criteria) be referred to as Saola Priority Area should it be devoid of Saola presence (currently, or in the future due to the existence of a non-viable population).
2. Within the context of this project, BAC recommends that the term 'Saola Priority Area' should be employed only to add value to or highlight the significance of the biodiversity offset site.
3. In addition, from the project's perspective, BAC recommends that the focus of ground-truth surveys (and methodologies and approaches employed) should remain true to the objectives of establishing a biodiversity offset site, i.e. on determining the biodiversity values of the potential offset site(s).
4. BAC further recommends that all concerned parties focus on proposing sites for ground-truthing surveys based on their potentially high biodiversity values, and design and carry out ground-truthing surveys to maximize chances of gathering information on the biodiversity values of the site.
5. Moreover, should any site be selected as the biodiversity site, and should Saola be found in any site selected, then the species approach (see section 5.3.1-3) should be employed for this species (or any other species of global significance) to ensure its survival at the site persists at viable population(s). This, in turn will allow groups or agencies with interests and commitments to conserve and study the Saola to complement the project's efforts at achieving the objectives of establishing the biodiversity offset site.

4. WATERSHED MANAGEMENT PLAN

4.1 Background

The Watershed Management Plan (WMP) consultants made a draft presentation on the status of the development of the watershed management plan on 4 December 2015 to BAC and EMO. As IAP, ADB, EMO, and BAC collectively agreed that the BMSP should be integrated into the WMP (see section 5.1), therefore discussions and recommendations on matters that pertain more to the biodiversity aspect of the watershed management are made in section 5. Nevertheless, some observations and assessment on the presentation and aspects are made here.

4.2 Issue: Nature of Presentation

The presentation overly focused on hydrology, the values of watershed, and theory of watershed management – somewhat reminiscent of classroom lectures – which although useful for education and awareness programs, were drawing away from the reporting on the development of the WMP and its progress. In addition, some aspects of the presentation were not directly relevant to the WMP.

4.2.1 Recommendations

1. BAC raised questions on certain aspects of the presentation and recommended (to the consultants) that corrections be made to improve the presentation and its relevancy.

4.3 Issue: Management Actions and Activities

In addition to identifying the management actions and activities, it was felt that some aspects of the actions and activities needed, is also to be addressed in the WMP. Some of the recommendations were also made during BAC's first mission (BAC, 2015).

4.3.1 Recommendations

1. BAC recommends that the WMP should also:
 - prioritize the actions and activities identified;
 - specify which are to be treated as short-term, medium-term, and long-term actions, thereby guiding parties to acquire and allocate their resources accordingly;
 - identify the specific needs required for implementing the actions and activities, such as estimated costs, type of human resources, and training and capacity-building needs; and
 - identify the collaborations needed, and the nature (e.g. research, conservation awareness, enforcement training, tourism) and types (e.g. universities, NGOs, local community-based unions, travel businesses) of those collaborations.
2. BAC further recommends that a section of the WMP be dedicated to developing ways and means for garnering funds or co-funding for financing specific activities, and generating options for developing a sustainable financing mechanism. WMP may refer to Financing Protected Areas (Financing..., 2000) as a resource for developing this section.
3. BAC further recommends WMP consultants refer to the relevant sections of BAC's first mission report to consider the recommendations made therein.

4.4 Issue: Complementarity to Biodiversity Management Sub-Plan

From the presentation, it also appears that there was little congruency and complementarity with the actions and activities needed/suggested for biodiversity management in the watershed. In some cases, the proposed actions and activities (albeit some with different objectives) appear to result in duplication of efforts, which also will likely result in wastage of resources.

4.4.1 Recommendations

1. BAC recommends that consultants working on the different management aspects of the watershed meet infrequently to avoid duplicating actions and activities that share common/overlapping objectives and that rely on the same resources; while simultaneously ensuring that they are congruent to the watershed's goal, and are complementary to one another.
2. BAC further recommends WMP consultants refer to the relevant sections of BAC's first mission report to consider the recommendations made therein.

5. WATERSHED BIODIVERSITY MANAGEMENT SUB-PLAN/COMPONENT

5.1 Background

Dr. Chanthavy Vongkhamhaeng (CV), contracted to develop the Watershed Biodiversity Management Sub-Plan (BMSP), made a presentation on 8 December 2015 on the proposed outline and approach of the BMSP to BAC and EMO, and this was followed by discussions specific to the BMSP, biodiversity conservation in the watershed, and on biodiversity offset site issues.

Prior to contracting CV, there were two other bids for developing the BMSP – received for BAC’s review on 24 September 2015. Upon reviews, BAC however accorded both the bids at no more than 5 points (out of a total of 10 points), and recommended that both bids be rejected. BAC further recommended some adjustments to NNP1PC’s recruitment procedures on matters that relate to biodiversity conservation and management, to ensure that the consultants comprise those with appropriate competence and extensive experience specific to the tasks identified.

Because of the unanimous decision (by ADB, IAP, BAC, and EMO) on 10 December 2015, the BMSP shall no longer be developed as sub-plan, but along with the Fishery Sub-plan (FSP), be integrated into a single WMP document. Hence, from hereon in this report, the BMSP will be referred to as the BM component of the WMP.

Prior to this decision, during the fifth mission, the IAP mission in May 2015 (IAP, 2015) recommended that the number of sub-plans should be minimized to ensure one integrated watershed management plan. NNP1, based on IAP’s recommendation, hired consultants for developing the WMP and the biodiversity and fishery sub-plans. BAC became operational in July 2015, therefore as per its ToR treated the BM component as BMSP – until the unanimous decision on 10 December 2015.

BAC is highly supportive of the change in approach i.e. in employing one single management plan to cover all aspects of management in the watershed. However, BAC cannot help but express some disappointment over the lack of foresight, which inevitably cost the project (and biodiversity conservation) much time, funds, and efforts.

Nevertheless, several recommendations to the BM component (i.e. BMSP) made during BAC’s first mission and in the months that follow right up to 9 December 2015 still applies. Some are reiterated here (albeit some with adaptations) along with some new ones based on discussions and observations made prior to and during BAC’s second mission.

It should be noted that the issues highlighted below are likely to be expected in the biodiversity offset site(s), therefore recommendations made, where applicable, will apply to the biodiversity offset site(s) and BOMP.

5.2 Issue: Congruency and Complementarity

Congruence and complementarity of the various management aspects or components of the watershed are essential as the integrity of the watershed is not only implicit to the functional capacity of the hydropower (preventing sedimentation and ensuring continuous flow of water) and food security (primarily agricultural productivity) of the resettled communities, but also to the biodiversity therein. It should be noted that failure to effectively conserve biodiversity will affect whole ecosystems

(and vice versa), water supply, and livelihoods of both resettled communities and others downstream from the watershed area.

Likewise, compensation and development assistance (including resettlement), although with the best of intentions can adversely affect biodiversity, if not managed carefully. Some animal species (e.g. goat, catfish, and tilapia) often introduced for improving livelihoods are some of the world's worst invasive alien species – they can outcompete native species for resources if they are allowed to range freely or if they escape to the wild. Other farming-related activities (e.g. locations of the farmlands) can disrupt animal migrations, breeding rituals, and feeding behavior, etc.

Ensuring congruence and complementarity of management in NNP1 Watershed (and offset site) requires critical review and oversight by NNP1 and relevant parties. For effective NNP1 Watershed (and offset site) management, especially if biodiversity values are to be maintained, considerable guidance must be provided to WMP (and BOMP) in a collaborative process to strategize activities to ensure optimal use of funds for maximal beneficial outcomes; and once funds have been released, those activities need to be appropriately monitored and the outcomes evaluated against the intended tangible goals.

5.2.1 Recommendations

1. BAC recommends that all consultants and key players identified to develop the management plan should schedule a number of face-to-face meetings (in addition to other means of communications) to ensure that all have a clear and unified understanding of the common goals and to ensure complementarity between the different components – initially to develop the inception report and later the management plan itself.
2. In addition, BAC recommends that BAC be physically present during the initial meeting(s) and during the presentation of the final draft to ensure that the goal and objectives for conserving biodiversity and protecting ecosystem are well-understood and not compromised.
3. Moreover, BAC recommends that proposals and plans for socio-economic development assistance in the project and offset sites be reviewed prior to implementation to avoid potential threats associated with invasive alien species.
4. BAC also suggests that NNP1 request for details of proposed provincial or central level EPF applications for the NNP1 watershed or offset site(s) – essential for good strategic long-term implementation of the management plan. EPF applications and their implementation provide a means for the NNP1 to monitor and assess local and or central GoL capabilities and motivation.
5. In essence, BAC ought to be frequently referred to for provision of reviews and comments to the development of the ToR (and consultants selection) right until their (management plans) final output, and to providing guidance on EPF proposals.

5.3 Issue: Approaches

In addition to its broader goals, the WMP is required to address the overall protection, rehabilitation, and enhancement of ecosystems and conservation of biodiversity. Biodiversity management is one aspect/component of the watershed management, it nevertheless should provide the framework/guidance to the proposed

actions and activities of the overall management (e.g. land use planning and allocation, types and nature of farming and agriculture, infrastructure development – i.e. dos and don'ts – to mitigate any potential negative effects of the broader watershed management's actions and activities on biodiversity and the natural ecosystems (and associated ecosystem functions and services).

5.3.1 Recommendations

Hence, BAC recommends that the management for biodiversity component consider employing a combination of the following approaches in developing the management actions and activities:

1. Landscape Approach: The landscape explicitly include humans as entities that cause functional changes on the landscape, and emphasizes the importance of developing resistance to disturbances, recovery from disturbances, and promoting total system stability, and proposes ways for restoring degraded landscapes. Employing the landscape approach will identify and emphasize the actions and activities (as they relate to biodiversity) that shall be undertaken by the WMP across the watershed, such as demarcating boundaries and management zones, development of zone-specific rules and regulations, restoring degraded or enhancing natural habitats, patrolling and monitoring, awareness among local communities in and adjacent to the watershed (including the hydropower employees), and compliance to biodiversity conservation objectives tied to compensation schemes, socio-economic assistance, and employees' contracts. In addition, employing the landscape approach will be in line with *Item 3.2 Legal Requirements for NNP1 Watershed Management of the Biodiversity Offset Framework*.
2. Hotspot Approach: This approach will focus on 'conserving and restoring' and 'conserving and enhancing' specific areas within the watershed that have been identified to have high species diversity and/or high biodiversity value (or with restricted national/global ranges) i.e. the 'conservation areas' as per the Biodiversity Offset Framework. It should be noted that the Concession Agreement indicated that any area of high biodiversity value in NNP1 Watershed should be classified as a 'Conservation Area'. The biodiversity baseline survey has identified two such areas, Phou Katha and Phou Samsao. However, conservation areas need not be restricted to these two areas only. Should future management activities identify other areas of high biodiversity value, then the same principles should be applied to those additional conservation areas.
3. Species Approach: This would require drawing up specific actions and activities for nationally and globally significant species and/or key ecological species whether they occur in the conservation area(s) or elsewhere in the watershed, although some specific actions and activities might vary depending on the species concerned, where they are located, and the type and nature of threats (if any). For identifying the globally significant species, consultants working on the management plan are advised to refer to the IUCN Red List of Threatened Species (<http://www.iucnredlist.org/>), and any revised taxonomy yet to be updated to the IUCN Red List of Threatened Species. It should be noted that species conservation is not just restricted to the provision of enforcement activities to the species concerned, but it also includes implementing interventions that ensure that their ecological requirements are met, their natural habitats protected, and elements are

in place to allow for a healthy population growth and the avoidance of genetic erosion.

5.4 Issues: Single Species Conservation vs. Biodiversity Conservation

It was proposed by WGR and RJT, that because of limited funds, only species of conservation significance be targeted (e.g. *Nomascus gibbons*) to maximize the chances of survival of those species, and that protection efforts should focus only on these species. Moreover, they recommended focusing only one priority biodiversity area (instead of the two identified by the biodiversity baseline surveys, namely Phou Katha and Phou Samsao).

Although not without merit, it must be emphasized that conservation of, for example, the gibbon populations would also require conserving its habitats, and that habitat conservation would include protection, enhancement, and restoration of habitats – not only restricted to one area and not only restricted to enforcement activities, but to both conservation areas and the adjoining areas.

Similarly, unless the gibbons' ecological requirements are met and their habitats remain intact, protecting the gibbons alone would not guarantee their survival. Determining their ecological requirements would require dedicated research. Moreover, the long-term presence of researchers, preferably graduate students (nationals and internationals) has frequently been far more effective than the presence of armed patrollers – both as a deterrent and in seeking the wider public support.

In addition, in the long-term, there is a need to increase the habitats available to the gibbons to allow growing populations sufficient resources. Increasing available habitats also means establishing safe corridor(s) to connect the Phou Katha and Phou Samsao gibbon populations. Increasing habitats and ensuring connectivity between sub-populations will help increase the effective gibbon population size, avoid genetic erosion, avoid population crash or loss due to stochastic events.

Furthermore, the primary goal of the BM (and the WMP) is not only about the conservation of gibbons or any particular species of conservation significance, but the conservation of biodiversity as a whole. Hence, biodiversity conservation actions and activities should cover the whole watershed and adjoining areas, although the nature and types of actions and activities, and the intensity of efforts will vary with the specific sites/habitats within and adjoining the watershed, and the species and threats therein.

5.4.1 Recommendations

1. Hence, for conserving species of national and global significance, BAC recommends employing the Species Approach (see section 5.3.1-3).
2. In addition, BAC recommends identifying (and demarcating and establishing) zones and sub-zones as an action that the BM component (and WMP) should incorporate into the plan.
3. Besides habitat conservation, BAC also recommends identifying and specifying the research needs of the species of national and global significance, and to propose how these research needs can be fulfilled e.g. collaborations with universities, partial funding or technical support to graduate students, partnerships with funding agencies or corporations to fund graduate students and early career researchers.

4. Further to the recommendation above, BAC recommends the establishment of permanent botanical plots for acquiring data on floral diversity and density, and for monitoring purposes (e.g. growth rate, recruitment rate, and phenology for assessing habitat health, food availability, food seasonality).

5.5 Issues: Ensuring Effective Management

It is not enough to just delineate and achieve legal protection status for the NNP1 Watershed, and to develop the WMP. To achieve the primary goal of the watershed management, the watershed (and the conservation areas therein) must be effectively managed and practice good governance. For management to be effective, the management team must be skilled, motivated, properly resourced. However, most protected areas in the region are staffed by personnel lacking the necessary range of skills. The issue of poor human resource was discussed at length in BAC's first mission report.

To address this issue, one of the tools developed by IUCN WCPA is a compilation of a global set of competences (Appleton, 2015) for protected area staff. This comprehensive global register specifies 260 specific skills and associated knowledge requirements (competences) relevant to protected area work around the world, covering all the main functions of protected areas and all types of people involved, from senior government officials to local field workers.

Appleton (2015) have justified that capacity-based approaches can assist protected areas in the following ways:

- Helping to secure official professional recognition. Many countries maintain a national list of official 'registered occupations' and associated occupational standards. Use of competences can help to establish a professional profile for protected area management, encouraging its formal recognition as an occupation, establishing clear career paths, attracting more new recruits, encouraging development of courses by educational institutions and attracting more funding.
- Widening access to capacity development and qualifications. Adoption of competence standards and competence-based approaches can enable far more protected area staff to improve their skills and to acquire qualifications in service, irrespective of prior qualifications. The competence approach can open new routes to learning, professional recognition and qualifications for all those involved in management and stewardship of protected areas, including local community members, NGO personnel, volunteers, local government staff and private land owners.
- Improving organisational structures and recruitment. By defining the competences required for each job in the organisation, protected area managing organisations can develop detailed job descriptions and organisational structures, judge the suitability of applicants for jobs, assess performance of staff and introduce transparent, merit-based systems for recruitment and advancement. This can help staff and managers develop a more clear understanding of their job responsibilities, improve overall performance and reduce staff turnover by providing incentives for talented and committed staff to remain in the organisation.

- Helping to analyse capacity needs. Defined competences can act as a checklist to provide a comprehensive and consistent framework for assessing and identifying capacity development needs.
- Assisting training providers. Competence standards can provide a basis for designing and delivering education and training programmes, ensuring that providers are working to common standards and helping trainees to assess the scope of courses offered to them.
- Recognising different modes of learning. Adoption of competence standards moves the focus from teaching to learning. This can help improve recognition and adoption of a wide range of learning methods in addition to conventional teaching or training. These include 'learning by doing', mentoring, coaching peer to peer learning and communities of practice. These learning approaches, in combination with training, can be highly effective and much more cost efficient.
- Enabling transferability of and regional recognition of skills and courses. Common standards have the potential to make qualifications 'portable' and provide a common language of competence across the sector, allowing skills and qualifications to be recognised across a protected area system, between organisations and even between countries.

5.5.1 Recommendations

1. BAC strongly recommends adopting (and adapting, where necessary) the IUCN WCPA Competences for Protected Area Staff into the WMP (and BOMP).
2. In addition, BAC strongly recommends the Watershed Management Committee (WMC) and the project provinces be guided by the job requirements of IUCN WCPA Competences for Protected Area Staff when fielding their staff to the watershed (and offset site).
3. BAC, likewise, strongly recommends that the fielding of staff to the watershed management should not be constrained by the available provincial staff, but to hire (on contract basis?) personnel from the 'open market', while prioritizing candidates from the stakeholder communities and the project provinces – thereby instilling a sense of involvement and ownership.
4. Moreover, BAC recommends employing the IUCN WCPA Competences for Protected Area Staff to provide a comprehensive framework for assessing and identifying capacity and capacity development needs, therefore enabling the accurate and efficient targeting of resources for capacity development.
5. Similarly, BAC recommends that the IUCN WCPA Competences for Protected Area Staff be referred to for assisting training providers a basis for designing and delivering training and capacity development programs, ensuring that trainers are working to common standards and helping trainees to assess the scope of courses offered to them.

5.6 Issue: Limited Operational Funds

The issue of limited funds available for watershed management, and likely even lesser funds available for the BM component was raised several times by members of the different missions. This was also noted previously by BAC during its first mission (BAC, 2015).

To reiterate, currently allocated funds, and the proposed disbursement and implementation mechanism, cannot hope to maintain the current levels of biodiversity value within the NNP1 watershed; and as a result, significant project-induced negative impacts on biodiversity are inevitable and immitigable. This clearly has potential implications for various biodiversity-related safeguards.

BAC does acknowledge the rather limited funds available for the watershed management. However, BAC consider these funds as the ‘start-up’ funds and has, to that effect, recommended during the first mission and in the first mission report (BAC, 2015), and several times during the second mission, that ways and means for generating/acquiring additional funds be incorporated into the BM component. In addition, BAC had also provided some ideas for generating and acquiring funds for conservation activities (both short-term and long-term).

It was also mentioned by some missions’ members that “*the budget is not enough*” and therefore the management plan must be restricted to the (limited) budget available to “*focus the funds into protecting the species (through enforcement patrols)*”. [See section 5.4]

Identifying the management actions and activities for the landscape, hotspot, and species approaches into the management plan (in reference to section 5.3.1) does not mean trying to achieve those actions and activities within the allocated budget. It simply means that that these are the actions and activities that need to be carried out to achieve the biodiversity conservation objectives in the watershed. Hence, identification of the management actions and activities provide valid justifications for seeking additional funds.

5.6.1 Recommendations

1. BAC recommends including a section in the WMP and BOMP on options, strategies, and pre-requisites for implementing actions and activities towards achieving some manner of sustainable financing for the NNP1 Watershed and biodiversity offset site. Some ideas with respect to income generation were offered BAC’s first mission report (BAC, 2015), and these ought to be considered for their merit, if any.
2. Simultaneously, BAC recommends that stakeholders evaluate as to whether additional funding or other resources can be incorporated into the WMP and BOMP, to allow better implementation of activities while the management team(s) seeks venues for sustainably financing NNP1 Watershed and biodiversity offset site.

5.7 Issue: Legal Status and Long-term Protection

BAC, during the first mission, recommended that the highest level of protection (NPA) be accorded to the NNP1 Watershed and the biodiversity offset site (BAC, 2015).

However, *Article 14 The Conversion of the Protected Area* of the draft English translation (dated 13 May 2015) of the GoL’s *Decree of Protected Areas No. 134/G* states that a protected area or portions of it can be converted (de-gazetted) if the aims for conversion are seen as of higher benefit. The article further states that conversion at the NPA and PPA levels can be proposed only by GoL, and it will require the approval the Standing Committee of the National Assembly.

Hence, *Article 14* implies that the NNP1 Watershed and the offset site(s) or portions of them, in theory, can be converted even after they have been accorded the

highest legal status (aimed for as a primary tool for achieving the long-term conservation of biodiversity and protection of ecosystems) – and fulfilling a criterion for establishing the biodiversity offset site.

Furthermore, to achieve effective long-term protection, management of the NNP1 Watershed and the offset site must prevent the incursion of trade-driven hunting and trapping, especially intensive snaring. It cannot be assumed that such trade-driven hunting will not occur within the near future. It is clear from precedents elsewhere along the Say Phou Louang-Troung Son Range that especially the onset of development activities (particularly the creation of roads) results in rapid increases in hunting intensity.

Moreover with intensive snaring massive, declines (e.g. in the order of 90% magnitude) of ground-dwelling large mammals are very likely to occur within the space of a few years. The last few years has seen much road development around the Nam Mouane potential offset area. Preventing such hunting will require considerable technical oversight, a well-trained and motivated management team, a supportive government environment, and considerable financial resources.

5.7.1 Recommendations

1. BAC strongly recommends that all relevant parties include this issue for priority discussion, and develop safeguards to avoid any reversal of the mitigation measures put into place to negate or offset the project's impacts on biodiversity, and to ensure compliance to the biodiversity offset criteria.
2. BAC recommends that, while most management activities are being planned or awaiting implementation, basic enforcement patrolling (and monitoring) activities be initiated as soon as possible, with the aim of achieving a high level of effectiveness within the first two to three years (e.g. multiple teams at 15-21 days per team per month, covering 100% of the defined conservation areas and/or key wildlife areas).

5.8 Issue: Security

Several times during the missions did the security issue in the watershed and potential biodiversity sites raised concerns for suitability of these sites for carrying out surveys (ground-truthing or biodiversity baseline) or for implementing effective management (biodiversity conservation and ecosystems protection).

Although it is acknowledged that such security issues will likely impede conservation activities and goals, it must nevertheless be emphasized that GoL and project provinces have an obligation to protect lives and limbs of both nationals and international visitors. Hence, involved parties should also view the project and its obligations (biodiversity conservation in the watershed and offset site[s]) from this perspective.

In addition, travel restrictions due to security issues are not limited to these sites only, but can apply to any part of Lao PDR. In fact, many parts of Lao PDR where there used to be travel restrictions, are now seeing a steady flow of foreign visitors. Furthermore, restrictions may also apply to citizens of certain nationalities only, e.g. RBZ, being a citizen of an ASEAN member country (with no records of any criminal wrongdoings in Lao PDR and elsewhere) was allowed complete access to Nam Poui NPA

in Sayabury Province (in 1997), whereas other foreign nationals (even long-time residents in Lao PDR) were (some repeatedly) denied permission.

Nevertheless, informal inquiries with GoL and provincial authorities revealed that:

- the security situation is temporary;
- activities can be allowed as and when the situation(s) improves;
- restrictions do not apply only to foreign nationals, but also to Lao nationals, although the degree of restrictions can vary with each situation;
- restrictions do not necessarily apply to any site as a whole, but parts of it;
- foreign nationals require additional permissions from Ministry of Foreign Affairs (particularly those without employment contract and working visa).

5.8.1 Recommendations

1. BAC recommends that the sovereignty of Lao PDR respected, and that the issue of security treated with caution, i.e. parties should not conclude too quickly based on hearsay. Details of the restrictions, if any, should first be understood – as poor understanding can lead to lost opportunities or strained relationships or both.

5.9 Additional Recommendations

Although many of the recommended actions and activities were previously made for the BMSP during BAC's first mission (BAC, 2015), nevertheless BAC wishes to re-emphasize that considerations be given for their inclusion into the WMP and the Biodiversity Offset Management Plan (BOMP). Besides those mentioned above, other recommendations include:

1. Identify specific areas (and highlighting those areas) within the watershed and/or conservation areas that require further investigations/surveys for their biodiversity values. These include areas assessed (from maps or other sources) to possibly contain viable habitats and biodiversity values. Other lower priority 'unchartered' areas of the watershed can be surveyed for their biodiversity as enforcement teams simultaneously carry out their patrols.
2. Design the WMP to be adaptive (possibly with some broad guidelines) to new information i.e. based on regular monitoring and evaluation inputs (see item 4 below).
3. Include clear benchmarks/indicators (and timeline, if relevant) for measuring success of the actions and activities identified for the three approaches indicated in section 5.3.1 above, e.g. population density estimates of indicator species, frequency and intensity of threats, natural forest cover.
4. Incorporate the Spatial Monitoring and Reporting Tool (SMART) to improve anti-poaching efforts and law enforcement effectiveness in the watershed. The SMART Approach can help to improve substantially the protection of biodiversity and habitats. However, it is important that the basic building blocks (e.g. patrolling and enforcement teams, necessary hardware and software) for adaptive management are first in place.

5. Adopting and adapting (where relevant) the design and approaches employed for the WMP to the BOMP.

6. VARIOUS OBSERVATION

6.1 Multiple Missions

Including BAC's mission, there were a number of missions simultaneously carried out from 5-12 December 2015. Overlapping missions, albeit exhausting to the project and its beneficiaries, is highly useful for synchronizing understanding and thoughts on common or related matters.

Hence, when feasible, missions (especially those pertaining to biodiversity, either directly or otherwise) should aim to overlap, and this will allow not only better face-to-face discussions on relevant matters, but also expedite decision-making therefore saving time and effort.

7. LITERATURE CITED

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Appendix 1: BAC team's itinerary² [Nov. 29-Dec. 13]

DATE	SITE	ACTIVITY
29 Nov. Sun.	Bangkok & Vientiane [Overnight Vientiane]	<ul style="list-style-type: none"> ▪ RBZ arrives Vientiane
30 Nov. Mon.	Vientiane [Overnight Vientiane]	<ul style="list-style-type: none"> ▪ EMO (VP, HW, SO) briefs BAC (RBZ, PP) on progress since BAC's 1st mission in Jul. 2015, and discuss 1st mission's recommendations/suggestions.
1 Dec. Tue.	Vientiane [Overnight Vientiane]	<ul style="list-style-type: none"> ▪ EMO (VP, HW, SO) and BAC (RBZ, PP) discuss progress, updates, issues. ▪ Review EMO's presentations for ADB/IAP/LTA mission.
2 Dec. Wed.	Vientiane [Overnight Vientiane]	<ul style="list-style-type: none"> ▪ Lao National Day [Public Holiday] ▪ Review EMO's presentations for ADB/IAP/LTA mission.
3 Dec. Thu.	Vientiane [Overnight Vientiane]	<ul style="list-style-type: none"> ▪ Watershed Management Plan Consultants deliver presentation. [Paolo & team, HW, SO, RBZ, SO] ▪ EMO (VP, HW, SO) and BAC (RBZ, PP) discuss Watershed Management Plan.
4 Dec. Fri.	Vientiane [Overnight Vientiane]	<ul style="list-style-type: none"> ▪ Biodiversity Offset Site Survey Consultant submits draft report and report findings. [CV, HW, SO, RBZ, SO] ▪ BAC (RBZ, PP) reviews Biodiversity Offset Site Survey draft report.
5 Dec. Sat.	Vientiane [Overnight Vientiane]	<ul style="list-style-type: none"> ▪ Review EMO's presentations for ADB/IAP/LTA mission. ▪ BAC (RBZ, PP) reviews Biodiversity Offset Site Survey draft report.
6 Dec. Sun.	Vientiane [Overnight Vientiane]	<ul style="list-style-type: none"> ▪ RJT arrives Vientiane. ▪ Brief and update RJT. [RBZ, RJT] ▪ Review EMO's presentations for ADB/IAP/LTA mission.
7 Dec. Mon.	Vientiane [Overnight Vientiane]	<ul style="list-style-type: none"> ▪ Participate in the ADB/IAP/LTA mission. ▪ NNP1PC briefing. ▪ Discussion on the outcomes of ground truth survey & BMSP development
8 Dec. Tue.	Vientiane & Pakxan [Overnight Pakxan]	<ul style="list-style-type: none"> ▪ Participate in the ADB/IAP/LTA mission. ▪ Discussion on watershed and biodiversity programs, offset site selection, and Integrated Spatial Planning. ▪ Discussion on the outcomes of ground truth survey & BMSP development. ▪ BAC, EMO & CV discuss BMSP. ▪ BAC, VJ, KM, WGR, EMO meeting with WCS
9 Dec. Wed.	Pakxan [Overnight Pakxan]	<ul style="list-style-type: none"> ▪ Participate in the ADB/IAP/LTA mission. ▪ Meeting with Bolikhamxay and Xaysomboun Provinces (PONREs) and NNP1 WMO ▪ Discussion on Watershed Biodiversity Management Sub-Plan and Watershed Management Plan.

² RBZ = Nov. 29-Dec. 13; PP = Nov. 30-Dec. 12; RJT = Dec. 6-11

DATE	SITE	ACTIVITY
10 Dec. Thu.	Pakxan [Overnight Pakxan]	<ul style="list-style-type: none"> ▪ RBZ, PP, SO site visit to NNP1 watershed and project site. ▪ RJT discussion with WGR, KM, VJ and MC ▪ RJT meeting with NNP1 GIS specialist ▪ RJT meeting with WGR, Mr Keovongdouane (BKX PONRE) and Ben Swanepoel (WCS) on potential offset site, WCS involvement ▪ RJT site visit with KM.
11 Dec. Fri.	Pakxan & Vientiane [Overnight Vientiane]	<ul style="list-style-type: none"> ▪ BAC, SO, KM, and WGR discuss Watershed Management Plan development, ground-truth surveys for proposed Nam Mouane biodiversity offset site, and various aspects of biodiversity conservation in the watershed and offset sites. ▪ RJT departs Vientiane for Hanoi.
12 Dec. Sat.	Vientiane [Overnight Vientiane]	<ul style="list-style-type: none"> ▪ BAC reviews and compiles mission's findings and observations. ▪ IAP, LTA, & ADB concludes mission and presents findings and observations.
13 Dec. Sun.	Vientiane & Bangkok	<ul style="list-style-type: none"> ▪ RBZ departs Vientiane for Bangkok.

CV = Chanthavy Vongkhamhaeng
 HW = Hendra Winastu
 KM = Kathy Mackinnon
 MC = Matt Corbett
 PP = Pheng Phengsintham
 RBZ = Ramesh Boonratana
 RJT = Robert J. Timmins
 SO = Souvanny Ounmany
 VP = Viengkeo Phetnavongxay
 WGR = William Robichaud