POPULATION ASSESSMENT OF GIBBONS IN KALIMANTAN, INDONESIA: LONG-TERM MONITORING AND EMPOWERING LOCAL PEOPLE IN EFFECTIVE CONSERVATION EFFORTS

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Technical Section

This work has two connected parts. The first is to improve effectiveness of locally-led patrol efforts through SMART conservation software and to provide training on SMART and to assess the impact of the new patrolling approach to deter illegal activities and to contribute to adaptive management led by the patrol team.

1. Forest patrols and SMART Objectives:
   a. Frequency of forest patrols – target three times per week with adaptive patrol routes
   b. all patrol team members trained in SMART approach
   c. all patrol team members trained in standard ways of recording and entering data on illegal activities encountered
   d. altering of routes, activities etc. based on analysis of SMART data at regular intervals.
   e. All illegal activities recorded and compiled in SMART

1. Forest patrols and SMART Achievements:
   a. Frequency of forest patrols – target three times per week with adaptive patrol routes – Yes. This continued until September 2015 at which time all efforts switched to fire-fighting and fire monitoring. Due to the severity of these fires no other work could be undertaken at this time. Patrols occurred daily with the use of the project drone to monitor key areas to allow rapid response to any fires (Figures 1 and 2).
Figure 1 Fires at the edge of the main study site.

Figure 2 Tackling the fires in the forest.
b. all patrol team members trained in SMART approach – Yes. All members of the patrol team and the research team are now trained in the theory behind SMART and the value of this as a conservation tool (Figure 3). This has also been incorporated into our Staff Development Programme.

Figure 3 Joana Aragay leads a discussion about SMART to patrol team, research staff and local government

c. all patrol team members trained in standard ways of recording and entering data on illegal activities encountered – Yes. Staff are encouraged to document all illegal activities using notebooks and cameras (if safe and appropriate) (Figure 4)
d. altering of routes, activities etc. based on analysis of SMART data at regular intervals – Yes. SMART is being used to calculate different routes and determine area and distance of forest covered in each patrol (Figure 5).
Figure 5 Simple example of different patrol route generated by SMART. Grey lines are transect lines, pink and yellow tracks are SMART-generated routes overlayed on our transect system.

e. All illegal activities recorded and compiled in SMART – Yes. The study site is now set up as a database on SMART and data are entered as they are reported to ensure real-time monitoring.

Additionally the staff are now recording all human activity recorded on camera traps as part of their efforts to document types and locations of this activity e.g. hunting.
2. Gibbon Population Surveys Objectives:

a. surveys of gibbon populations at key locations in the Sabangau forest (core study area and 4 remote locations).

Progress towards meeting these targets will be evaluated at quarterly intervals.

2. Gibbon Population Surveys Achievements:

a. surveys of gibbon populations at key locations in the Sabangau forest (core study area and 4 remote locations) – Completed February 2016. The final 2 sites were postponed to 2016 due to the fires from September – December 2015 (Table 1).

<table>
<thead>
<tr>
<th>Year surveyed</th>
<th>Site name</th>
<th>General Site Name</th>
<th>Habitat</th>
<th>Gibbon density (groups/Km²)</th>
<th>Number of survey locations (1 location = 3 listening posts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>KORAN</td>
<td>Sabangau Remote</td>
<td>Mixed Peat-Swamp Forest</td>
<td>2</td>
<td>2</td>
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<tr>
<td>2015</td>
<td>CANAL ALUI</td>
<td>Sabangau Remote</td>
<td>Mixed Peat-Swamp Forest</td>
<td>2.48</td>
<td>2</td>
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<td>KM3.5</td>
<td>Sabangau Remote</td>
<td>Low Interior Peat-Swamp Forest</td>
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<td>2016</td>
<td>KM12</td>
<td>Sabangau Remote</td>
<td>Tall Interior Peat-Swamp Forest</td>
<td>3.92</td>
<td>2</td>
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<td>2016</td>
<td>Camp</td>
<td>Sabangau Main</td>
<td>Mixed Peat-Swamp Forest</td>
<td>2.53</td>
<td>2</td>
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</tbody>
</table>

Time Schedule

Density surveys were planned for June – October 2015. Surveys were complete in 3 of the 5 sites but in September 2015 the forest fires returned and all efforts were moved to fire-fighting.
# Financial Section

<table>
<thead>
<tr>
<th>Item</th>
<th>Received from Gibbon Conservation Alliance (US$)</th>
<th>Spent (to February 2016)</th>
<th>Excess covered by OuTrop</th>
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<tbody>
<tr>
<td>Patrol team transport and fuel</td>
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<td>1100</td>
<td>-100</td>
</tr>
<tr>
<td>3 x GPS to ensure each sub-team can record data needed for SMART</td>
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<td>500</td>
<td>0</td>
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<tr>
<td>Patrol team salaries</td>
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<td>Monitoring of gibbon population at 5 sites</td>
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<tr>
<td>Socialisation and Awareness of SMART including training workshops</td>
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