Section I. Project Information	
Project Title: Kerinci Seblat Tiger Protection & Conservation *(Pelestarian Hairmau Sumatera Kerinci Seblat)*	
Grantee Organisation: Fauna & Flora International (FFI)	
Location of project: Kerinci Seblat National Park, Sumatra, Indonesia	
Size of project area (if appropriate): 1.389 million ha (5,200² miles) - Kerinci Seblat national park (excluding buffer-zone forests.) TPCU SMART patrols are mainly conducted in national park and park-edge forests in the centre of the project landscape in an area covering approximately 350,000ha which includes a Core Area of 83,000ha which forms the site for annual camera trap monitoring of tiger populations. However, investigations and other activities, including law enforcement, are conducted more widely across the project landscape so extending tiger conservation impact far beyond the central area of the national park.	**No of tigers in project area, giving evidence & source:** Surveys and camera trapping by FFI/DICE between 2004-2007 proposed a population of 136-144 tigers in the Kerinci Landscape, including the 300,000 ha Batanghari watershed protection forest to the north-east of the national park. Landscape-wide occupancy surveys were conducted in 2007-2008 by the FFI/KSNP tiger monitoring team (MHS KS) which, following analysis, recorded tiger occupancy across the Kerinci Landscape at 82% - the highest in Sumatra. These data and subsequent analysis of 'spot' camera trapping and surveys by FFI and other parties saw the Ministry of Environment and Forestry propose a population of 166 Sumatran tiger in the Kerinci Tiger Conservation Landscape (KSNP *and* Batang Hari forests.) Park-wide tiger occupancy surveys – excluding the Batang Hari forest block - were conducted under the Sumatra-Wide Tiger Survey between March 2019 and May 2020, primarily by the MHS KS team, but also drawing on data collected by Lingkar Inisiatif and TPCUs. Surveys were conducted, following a nationally-agreed data collection protocol in 89 17x17km (289 km^2) forest grid cells in and immediately adjoining KSNP. Grid cell size was selected to maximise encounter probability (Wibisono et al, 2011) and record a 'naïve' occupancy rate of 85%. Statistically robust analysis was then conducted advising tiger Occupancy in Kerinci Seblat NP has increased from 82% in 2007-8 to 94% in 2019-20. A major review of tiger densities in the Core Area recorded between 2014-2020 was conducted in late 2020 to address a statistical bias detected. This study concluded tiger densities in the Core Area have increased from 0.85 (0.49 - 1.49) tiger /100km2 in

	2014 to 0.91 (0.55 – 1.50) tiger /100km2 in 2020. Drawing on camera trapping results in the Core Area and Sumatran tiger occupancy park-wide (excluding the Batang Hari forest block) this study concludes that Kerinci Seblat national park protects not fewer than 120 individual Sumatran tigers.

Partners: *(Please give details of partners, including communities, academic institutions etc. for this project.*

Kerinci Seblat National Park authority: The project operates in a full partnership with the national park under an MoU between FFI and the Indonesian Ministry of Environment and Forestry (MoEF).

MoEF 'Units for the Conservation of Natural Resources' (KSDA): Primarily KSDA Jambi, West Sumatra and Bengkulu provinces.

Indonesia National Police: Provincial and park-edge district divisions and INAFIS forensic division.

Local civil society: primarily Lingkar Inisatif (Bengkulu) and Institut Conservation Society (Solok Selatan and Solok districts of West Sumatra), Flight (links between IWT pressure on wild songbirds and other organised wildlife crime),

National organisations: Forum Harimaukita (Sumatran tiger conservation forum), University of Andalas Biology Faculty (West Sumatra)

International organisations: WCS Indonesia Wildlife Crime Unit (informal discussions on changes in poaching and IWT threat detected), Traffic SE Asia, EIA

Project Contact Name: (*main contact via email)*

Email:

Reporting period: February 01 2020-Jan 31, 2021

Please ensure that your report relates to the objectives and activities detailed in your proposal and logframe. Please include results data in Section II and Section III.

Section II. Project Results

Long Term Impact: (*How has this work contributed to the vision and long-term impact that your project aims to achieve?)*

The project's long-term goal is to underwrite a sustained, natural increase in Sumatran tiger populations in Kerinci Seblat National Park through detecting and reducing threat to tiger, tiger prey and habitat.

Patrol records of poaching threat to tiger were far below the long-term programme average for the fourth-year running while patrol Effort to record tiger presence and frequency of encounter with tiger improved for the fifth consecutive year. Threat to key tiger prey species remained low, reflecting a long-term gradual downturn in pressure.

When park-wide tiger occupancy surveys by the FFI/KSNP Tiger Monitoring team launched, in early 2019, it was expected that higher levels of poaching threat to tiger would be recorded in areas not receiving a focused field presence. This was not the case and park-wide surveys show that threat to tiger has reduced across the wider national park landscape and not only in areas receiving a routine patrol presence.

TPCUs and the tiger monitoring also expected that, as a result of the surge in poaching threat to tiger recorded between 2012 and 2016, that tiger occupancy, park-wide, would be lower than the 82% recorded in 2007-2008 when park-wide surveys were last conducted. This too was not the case and scientifically robust analysis of occupancy survey results proposes tiger Occupancy, park-wide, has risen to 94% indicating that actions by the programme and partners have leveraged a wider conservation impact.

A detailed analysis of camera trapping results in the Core Area between 2014 and 2020 shows that tiger densities have increased, year-on-year, since 2014.

TPCUs patrols during the project conducted a total of 104 SMART patrols in and adjoining the national park with Effort to record tiger presence rising to 1-5.9 patrol days while poaching threat to tiger remained far below the long-term average for the fourth consecutive year.

Tigers in Kerinci Seblat continue to face a range of threats while gradual reopening of international transport links in 2021 and the economic impacts of the Covid-19 pandemic may offer significant conservation challenges. However, activities during the project period supported and advanced the programme's long-term vision and goals for wild tigers in Kerinci Seblat national park.

Conservation Outcome: (*What are the actual changes that this project has achieved?)*

Patrols by Tiger Protection & Conservation Units in national park and park-edge forests in three provinces recorded a fourth consecutive year in which poaching threat to Sumatran tiger was far below the long-term average (1 active snare per 27 patrol days) at 1 active snare per 94 patrol days.

Although the number of patrols conducted and distance walked was lower than planned due to restrictions as a result of the Covid-19 pandemic, patrols recorded the presence of no fewer than 95 Sumatran tigers.

Frequency of Encounter with tiger was stable or better at 1-18km while patrol Effort to record tiger presence fell to 1-5.9 days. In total, 62% of TPCU patrols conducted recorded tiger present rising to 84% of patrols within the Core Area.

Only a small number of patrols were conducted during the holy month of Ramadan due to local and national lockdowns in response to Covid-19. However the project recorded a continuing decline in poaching threat to deer over the year with only one 'long' snare line recorded on a patrol in an area that does not receive a routine field presence.

Eight human-tiger conflicts were mitigated by TPCUs, in one case working with the tiger monitoring team, with all but one of these conflicts reported by the local community before livestock predation had occurred.

Investigations in the four provinces overlaying the national park reported that disruption to international travel and trade routes caused by the Covid-19 pandemic had severely disrupted illegal wildlife trade networks, so adding to the deterrent impact of law enforcement by the program in recent years.

One Intelligence-led tiger law enforcement action was conducted during the project period and resulted in the arrest of three men, poaching and trading tigers from two national parks in Sumatra. Two further wildlife law enforcement actions resulted in the arrest of five men on Malay pangolin trade charges with law enforcement conducted as a result of an ongoing investigation into illegal wildlife trade networks operating out of West Sumatra province in the north of Kerinci Seblat.

Meanwhile camera trap monitoring of tiger populations in the Core Area by the FFI/KSNP Tiger Monitoring team (MHS) identified 15 individual tigers – the highest number since annual monitoring commenced in 2013-2014 while analysis of camera trapping records shows that tiger densities in the Core have increased since 2014 in spite of the high levels of threat recorded between 2013 and 2016.

Summary of activities and achievements: *(Please provide a summary for use in our communication materials Max 300 words)*

Activities were conducted in and around Kerinci Seblat National Park in four provinces with Tiger Protection & Conservation Unit rangers maintaining their long-standing commitment to the conservation of Sumatran tiger in the face of the pandemic which struck Indonesia in late March 2020.

TPCUs conducted a total of 104 SMART foot patrols during the project period covering a total distance of 1696 km (1054 miles) and reported the presence of no fewer than 95 Sumatran tigers. Patrol Effort to record tiger presence was the best in more than five years.

Active poaching threat to Sumatran tiger remained far below the long-term average for the fourth-year year running however six active tiger snares were destroyed by TPCUs while a patrol in early January 2021 reported the recent killing of a tiger in a snare – the first such incident recorded on a patrol in three years.

Investigations were conducted in 16 districts and municipalities of four park-edge provinces and advised that past tiger law enforcement, together with the impacts on national and international travel and transport of the Covid-19 pandemic, had further reduced IWT demand for tiger body parts.

However three intelligence-led wildlife law enforcement actions were conducted resulting in the arrest of three men on tiger poaching and trade charges and a further five men on charges of trading Malay pangolin.

TPCUs conducted eight human-tiger conflict mitigation actions, working with villagers to protect both the tigers and farmers' livelihoods and to find a peaceful resolution to the conflict.

The tiger monitoring team (MHS) completed tiger occupancy surveys across the national park and park-edge forests with subsequent analysis of surveys showing tiger Occupancy in Kerinci Seblat has risen to 93% compared with 82% in 2008. Meanwhile camera trapping in 2020 in the Core Area

identified a record 15 individual tigers.

Details of activities and results: (*Please give detailed narrative of the results of each objective & output. Please include measures for example patrol numbers and distances covered)*

1: TPCU SMART forest patrols - TPCUs conducted a total of 104 SMART foot patrols in and adjoining the national park covering a total distance of 1696km (1054 miles) with 563 days spent on patrols and with 28 of these patrols conducted in the 'Core Area' of the national park.

The number of patrols conducted, forest days and distance walked was lower than planned due to local and regional lockdowns and travel restrictions due to the Covid-19 pandemic. No patrols were conducted in April which saw the start of the fasting month of Ramadan and a reduced number of patrols in May.

Patrols reported the presence of no fewer than 95 Sumatran tigers with 62% of TPCU SMART patrols, park-wide, reporting tiger present with Frequency of Encounter with tiger rising to 1 tiger per 18 patrol kilometres (2019-20: 1-18.5km, 2018-19:1-22K, 2017-2018: 1-22km). Effort to record tiger presence improved to 1 per 5.9 patrol days, (2019-20: 6.2 days; 2018-19: 7.5 days) – the best encounter rate in at least five years.

TPCUs conducted a total of 28 SMART patrols in the Core Area of the park across over 173 days and covering just over 620 km (385 miles). Core Area patrols reported the presence of not fewer than 41 tigers.

Effort to record tiger in the Core improved fractionally to 1 tiger per 4.2 patrol days (1-4.6 days in 2019-20) with frequency of encounter with tiger rising to 1-15 patrol kilometres (1-16km in 2019-20) with 86% of TPCU patrols in the Core Area reporting tiger present.

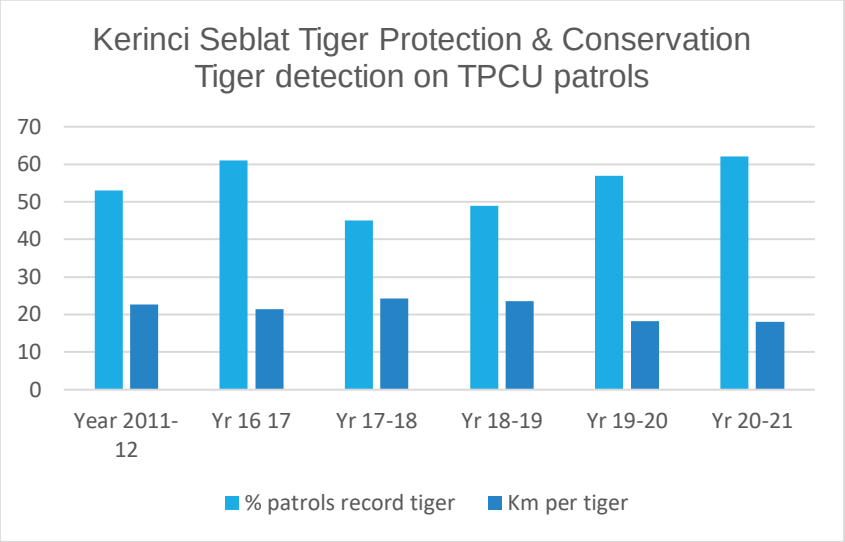
Active snare poaching threat to tigers detected by TPCUs remained below far the long-term average (1 active snare per 27 patrols days) for the fourth consecutive year with Effort to detect threat at 1 snare per 94 patrol days.

Six active tiger snares were detected and destroyed on three TPCU patrols, two launched using local knowledge and building on information from forest-edge supporters. Patrols also recorded a total of 11 'recently active' tiger snare placements, three on patrols where active tiger snares were also present, and reported the death, in tiger snares, of one Sumatran tiger and one Malay tapir (EN) on a patrol in early 2021. A cigarette packet found at the crime scene was collected using training provided in 2019 by police forensic specialists. Unfortunately, heavy rain in the 10-12 days since the incident occurred meant fingerprints could not be detected and so, although the identity of the poacher is suspected, there was no evidence to support the individual being summonsed for interview.

Patrols also recorded and destroyed 79 'active' deer snares on five patrols, 66 of which were recorded on one patrol in a rarely patrolled area of the national park in the foothills of Mt Kerinci on the Jambi-West Sumatra border.

Due to national and local lockdowns imposed in response to the pandemic, only a small number of TPCU patrols were conducted during the holy month of Ramadan – a period when deer poaching climbs in some areas as hunters seek to meet local market demand for meat.

Snare poaching for deer has steadily declined over the last decade as poachers have becoming increasingly deterred by the risk of detection and loss of their snares, however the number of deer snares recorded and patrols reporting poaching was lower than the even the recent norm.



This may have been a consequence of the pandemic and restrictions on local movements with many forest-edge villages placing restrictions on individuals from other villages entering their areas in a bid to reduce transmission of the virus.

The programme team traditionally aims to conduct intensive, focused patrols during the holy month of Ramadan – which fell in 2020 in April and May - to address and contain a traditional increase in poaching of deer to supply local market demand. However, the emergence of Covid-19 in Indonesia and local and national lockdowns from late March meant that no TPCU patrols were conducted in April and only a small number of patrols in May.

2: Investigations were conducted in 16 districts and municipalities of the four provinces which surround Kerinci Seblat National Park with 90 reports logged and graded for credibility over the project period.

The number of investigations conducted was lower than planned due to the Covid-19 pandemic with no 'on-the-ground' investigations conducted in March and April 2020 and only two investigation reports were logged in May.

Investigations subsequently resumed, but with great caution, while routine monitoring of the activities of some suspected poachers could not be conducted due to movement restrictions on 'outsiders' imposed by remote forest-edge communities to prevent the spread of the Covid-19 virus.

Six of the investigations conducted were graded as A1 status (evidence of wildlife crime confirmed, first-hand, by TPCU investigators) with three investigations subsequently proceeding to successful wildlife law enforcement (See 3 *Law Enforcement,* below) and the arrest of eight poachers or traders

One of these investigations was launched in 2018 after a park-edge community supporter advised a TPCU patrol team of 'outsiders' entering Kerinci Seblat national park forests. This investigation proceeded to identify three individuals operating from districts adjoining the Bukit Barisan Selatan National Park in southern Bengkulu province. Investigations, which were conducted in partnership with local NGO partner Lingkar Inisiatif, advised the gang were poaching tigers in both Kerinci Seblat and Bukit Barisan Selatan national parks in Bengkulu and Jambi provinces and trading tigers on, through an intermediary or 'broker', also from southern Bengkulu. This investigation finally proceeded to successful law enforcement in December 2020.

A second investigation in the south-east of the national park in South Sumatra province confirmed tiger crime had occurred and identified an individual trading tigers and also implicated in large-scale illegal logging but could not proceed to law enforcement for technical reasons and for the safety of the investigator. In a third tiger-focused investigation, it was concluded that the evidence seen was unlikely to be sufficient to move successfully, from law enforcement through the legal process to an appropriate court judgment. Both of these two investigations remain 'active.'

Investigations were also conducted in West Sumatra province (which overlays the northern section

of the national park) into networks operating from certain municipalities trading Sumatran tigers, Malay pangolin and helmeted hornbills sourced from Kerinci Seblat and other protected areas. These investigations resulted in two successful law enforcement actions with one of the arrested individuals heavily implicated in trade in tigers sourced from two national parks in North Sumatra province.

Although the Covid-19 pandemic imposed significant constraints on TPCU activities, investigations advised that the pandemic had a positive impact on wildlife crime. IWT demand for Malay pangolin- a species frequently traded 'in tandem' with tiger dropped dramatically as traders learned of the likedly link between Covid-19 and pangolin while police checkpoints and movement restrictions in park-edge districts also offered a serious deterrent to poachers and local traders planning to transport wildlife.

TPCU personnel continued to manage local, forest-edge information networks drawing both on relationships developed with farmers during patrols and on their social and family networks. Four of the six active tiger snares destroyed were recorded on patrols launched using tip-offs from forest-edge supporters. However, TPCU rangers reported that some poachers are now taking steps to avoid being seen when entering the forest.

3 Wildlife and Forest Law enforcement: Three intelligence-led wildlife crime law enforcement actions were conducted during the project period resulting in the arrest of eight men, three on tiger poaching and trade charges and five on charges of trading Malay pangolin.

In December 2020, tiger law enforcement was conducted in partnership with Bengkulu provincial police following a long-running TPCU investigation into a tiger poaching syndicate operating out of districts in south Bengkulu province and operating in two or more provinces of Kerinci Seblat National Park and a neighbouring protected area. Three men, two habitual tiger poachers and their broker or intermediary, were arrested with the complete body parts of a very large adult male Sumatran tiger which had been poached in forests in the north of the Bukit Barisan National Park which lies to the south of KSNP. This case has now proceeded through to the judicial process with a court judgment likely in March or April 2021. WCCA will be advised of the results of the court hearing.

Two intelligence-led pangolin law enforcement actions were conducted in the course of an ongoing investigation into tiger, pangolin and helmeted hornbill trade networks operating out of West Sumatra province in the north of Kerinci Seblat.

In July, law enforcement was conducted in West Pasaman district of West Sumatra province in partnership with KSDA West Sumatra and district police. Three men, one from Mandailing Natal district of North Sumatra province, were arrested and 23kg of pangolin scales seized as evidence. The main suspect, from North Sumatra, was a long-standing trader in Sumatran tiger, pangolins and hornbills poached from Gunung Leuser and Batang Gadis national parks but with links to trade networks operating in two provinces bordering Kerinci Seblat NP. This case proceeded to a court hearing where magistrates imposed custodial sentences and fines.

In early December, pangolin law enforcement was again conducted, this time in partnership with Kerinci district police and resulting in the arrest of two illegal wildlife traders from a park-edge district of West Sumatra with 4.5kg of pangolin scales as evidence. The TPCU investigation which resulted in law enforcement advised the suspects had a long record of buying protected wildlife from local poachers and selling on to traders in towns in two park-edge provinces and had appeared to be familiar with a number of suspected tiger poachers operating in the north-east of the national park. This case has now proceeded to the judicial process and a judgment is likely in March 2021.

In addition, TPCUs arrested two illegal loggers operating in national park forests in Kerinci district with timber, chainsaws, axes and two trail bikes used to carry timber out of the national park seized

as evidence. The men were subsequently sentenced to eight months custodial sentences and fines of Rp10,000,000 (£500). The case against three men arrested on tiger poaching and trade charges in October 2019 proceeded to a court hearing in early 2020. The judges subsequently sentenced the poacher in this case to a two years custodial sentence with a fine of £2500. The poacher's 'broker' and his accomplice were each sentenced to one year and four months prison terms and fined of £2500 or serve additional time. Sentencing was lower than the 30 months proposed for all suspects by the courts prosecutor.

TPCU patrols issued 33 formal or verbal warnings in the course of 18 patrols for a range of offences including wild bird catching, (small-scale) illegal logging or forest clearance and fishing within the interior (strict protection) zone of the national park. Of these warnings, a total of 14 formal written cautions – including one to an elderly villager with a muzzle loader gun - were delivered in the course of seven TPCU patrols with offenders warned they faced arrest and prosecution if they reoffend. Three chainsaws were confiscated by TPCU on three patrols in addition to wild bird catching and other equipment used by forest and wildlife law offenders.

4 Human-wildlife conflict mitigation and wildlife emergency responses

TPCUs responded to and mitigated eight human-tiger conflicts during the project period, all but one involving tigers 'straying' through forest-edge farmland and alarming farmers but posing no direct threat to people or livestock.

In only one case was livestock predation by tiger recorded – a water buffalo tethered overnight in rice paddies close to forest edge in the south-west of the national park in Bengkulu province. Four of these human-tiger conflicts were recorded in forest-edge farmland in the far south of the Kerinci valley and may have involved the same tiger, likely a young dispersing adult. In this particular case members of the Tiger monitoring team (MHS) worked with the TPCU team, placing camera traps in an effort to secure images and so identify the tiger responsible and assess if an injury was responsible for its behaviour.

A ninth conflict incident reported as a tiger moving through forest-edge farmland was found, upon investigation, to be a Sumatran golden cat and not a tiger. Additionally one human-bear conflict – again in the south of the Kerinci valley – was responded to by TPCUs. This bear repeatedly moved into and through farmland close to villages and predated three goats before being caught and relocated into national park forests.

Additionally, information passed to the team advisor and then onto the national park resulted in the rescue, from a forest edge-farmer and subsequent release into the national park, of an endemic Sumatran rabbit *Nesolagus netscheri*, one of the rarest and least known mammals in Sumatra.

Other human-tiger and human-bear conflicts in the east of the national park were managed directly by KSDA Jambi (and members of a multi-stakeholder human-wildlife conflict mitigation taskforce formed under an Edict of the Governor of Jambi province in 2018.

Other Activities

Stakeholder liaison: The project team maintained informal contact with colleagues in other tiger conservation programs in Sumatra, in particular with the WCS wildlife crime unit in Medan, North Sumatra and in Lampung and with local NGO partners, most notably Lingkar Institute in the far south-west of the national park. Meanwhile national park seconded members of the project team

maintained informal liaison with key park-edge police divisions and other forestry agencies although face-to-face meetings were fewer than usual due to the Covid-19 pandemic.

Data was shared routinely with the Merangin village forest team while all activities were reported, monthly, to the director of the national park for onward reporting to the Ministry of Environment and Forestry in Jakarta so providing near real-time data to national level decision makers.

Six members of the TPCU received 'lifetime awards' from the Director General of Nature and Ecosystems Conservation, Ir Wiratno, in honour of their service to tiger conservation. The recipients included Sukarno, Andi Siswanto and M Rozali, all community ranger members of the team who joined the PHS team at inception, in 2000, Bengkulu TPCU coordinator, Geovril Seven X who joined the team in 2004 as a TPCU leader and Muslim, who joined the team in 2003 and now leads one of the three Jambi TPCUs.

Due to the Covid-19 pandemic, plans to facilitate extension of an MoU between the national park and four provincial police chiefs in support of a wildlife and forest crime law enforcement network could not proceed.

Training: No formal capacity-raising exercises or workshops were conducted, however national park auxiliary rangers or 'MMP' joined some TPCU patrols to gain experience in deep forest navigation and use of SMART reporting methods.

Tiger Monitoring: Camera trapping in the Core Area was conducted by the tiger monitoring team (MHS) between June and September 2020 with support through the UNDP tiger project. For this purpose, the 83,000 ha Core Area was divided into 3kmx3km grid cells with 101 camera trap placements set composing 84 'double' placements and 17 single units. Of 96 camera trapping points where material was available for analysis, 59 secured still or video images of Sumatran tiger with a total of 112 tiger records (*N tiger detections*), a significant increase on previous years; for example, in 2018, of 102 camera traps placed, only 79 *N* tiger detection was recorded. A total of 15 individual tigers (N *tigers*) were identified composing four males, 10 females and one where the gender could not be identified. The number of individual tigers photographed and identified was the highest since camera trapping across the Core Area was first conducted in 2013-14 when 12 individuals were identified. Preliminary analysis of camera trapping results using basic maximum likelihood capture-recapture analysis proposed a decline in density of tiger in the Core Area to 0.8 per 100^2km compared with 1.04 per 100^2km in 2013-14. However, reanalysis of camera trapping results between 2014-2020 demonstrates that tiger densities in the Core Area have increased from 0.85 (0.49 - 1.49) tiger /100km2 in 2014 to 0.91 (0.55 – 1.50) tiger /100km2 in 2020, an increase of just over 6% and that there was a bias in camera trapping analysis in earlier years due to the model used.

Tiger Occupancy: In May 2020 the FFI/KSNP tiger monitoring team completed 18 months of park-wide tiger occupancy surveys, the first park-wide survey since 2008. A total of 89 17km x 17km ($289km^2$) randomly-selected Grid cells were surveyed in and immediately adjoining the national park. Recent or current tiger presence was recorded in 76 (85% *naive*) of the 89 Grid Cells surveyed with tiger occupancy higher in the centre and north of the national park. The 'naïve' data from occupancy surveys, to which TPCUs and local partner Lingkar Inisiatif also contributed, was then analysed to identify how tigers are using the landscape and to estimate wider occupancy drawing on co-variates including forest cover, distance from settlements, availability of prey and roads. This analysis concludes that tiger occupancy in Kerinci Seblat National Park has risen, since 2007-2008 when the last park-wide surveys were conducted from 83%, to 94% in forested areas with occupancy strongly influenced by distance from villages/farmland and availability of prey species.

Key achievements of this project:

- In the face of major constraints posed by the Covid-19 pandemic, six TPCUs conducted 104 SMART forest patrols across a total distance of 1696 km (1,054 miles) in national park and park-edge forests.
- Patrols recorded a minimum of 95 tigers with Frequency of Encounter stable or better at 1-18.2km (1-18.5km in 2019-20) and Effort to record tiger improving to 1 tiger per 5.9 patrol days (1-6.25 in 2019-2020) and 1-4.2 days in the Core Area.
- Sumatran tigers were recorded present on 62% of all patrols conducted (57% in 2019-2020).
- The dedication of TPCU personnel to tiger conservation was recognised with six personnel receiving awards from the Director General of Nature and Ecosystems Conservation, Ir Wiratno. The recipients included Sukarno, Andi Siswanto and M Rozali who joined the PHS team at inception, in 2000.
- A total of six active tiger snares were recorded on three patrols with Effort to detect active snares at 1-94 days (1-70 days in 2019-2020) and so marking the fourth consecutive year in which direct threat to tiger was far below the long-term programme average.
- Investigations were severely disrupted by the Covid-19 pandemic, however a total of 90 investigation and 'for information' reports logged and graded in the course of activities in 16 districts and municipalities of the four provinces which overlay the national park.
- Investigations supported one successful tiger law enforcement action resulting in the arrest of a tiger poaching and trade syndicate operating across two or more provinces of Sumatra island. Investigations also supported two pangolin law enforcement actions, one resulting in the arrest of an individual believed to be trading tigers, Malay pangolin and helmeted hornbill across three or more provinces of Sumatra.
- Formal and informal warnings and advisories were issued to 33 men in the course of 18 patrols for a range of wildlife and forest law offences with three chainsaws confiscated. Two men were arrested and escorted out of the national park and charged with illegal logging offences.
- Eight human-tiger conflicts responded to and mitigated by TPCUs, with only one of these incidents involving livestock predation. One human-Malay sun bear conflict resolved through relocating the bear to national park forests.
- Analysis of Tiger Occupancy surveys conducted across the national park by the FFI/KSNP Tiger Monitoring team proposes that tiger Occupancy in Kerinci Seblat National Park has risen, since 2007-2008 from 83% to 94%.
- Camera trapping in the Core Area in 2020 by the Tiger Monitoring team recorded an increase in tiger density with a record 15 individual tigers identified with in-depth analysis of records demonstrating a consistent rise in tiger densities in the Core Area since 2014.

Obstacles to success: Give details of any obstacles/challenges to success that the project has encountered.

The Covid-19 pandemic – first formally recorded in Indonesia in March 2020 - had wide-ranging direct and indirect impacts on the project and, together with the imperative of protecting the safety of personnel, resulted in changes to the planned workplan with some planned activities not possible.

- Patrols: The project had planned to conduct at least 115 patrols, including patrols to contain seasonal poaching threat to deer immediately before and during the fasting month of Ramadan which fell in April and May 2020. However, no SMART patrols could be conducted in April and only a very limited number of patrols in May due to Covid-19 restrictions. Subsequent patrol deployment was frequently constrained by local movement restrictions. These challenges

resulted in a lower number of patrols (104) and so TPCU forest patrol days (563) and distance walked (1,697km) than the 115 patrols and >600 days/>1850km planned. Consequently, only 95 individual tiger records were made although frequency of encounter with tiger and patrol Effort to record tiger presence further improved.

- Poaching and illegal wildlife trade Investigations were also severely disrupted by the Covid-19 pandemic with no reports logged in March or April and only a handful of investigations in May and June due to concern for investigator safety. Subsequently investigations were stepped up but remained lower than normal with staff advised, where possible, to avoid high risk or 'red zone' areas while investigations in some remote park enclave areas could also not be conducted due to local restrictions intended to prevent the virus spreading.
- Planning to support an extension of an MoU between KSNP and four provincial police chiefs supporting a collaborative wildlife and forest crime law enforcement network across the Kerinci landscape was suspended due to the Covid-19 pandemic and will be reviewed once the situation is more stable and as funding is secured.
- Although FFI's operating MoU with the Ministry of Environment and Forestry was signed-off in March 2020, the pandemic and travel restrictions meant that planning to develop use of anti-poaching cameras or 'poachercams' with Panthera could not proceed.
- Formal and informal face-to-face coordination and networking with local partners, including park-edge police detective divisions and local civil society, was also very severely curtailed from April due to the pandemic.
- In late March 2020, the Indonesian government issued a ban on travel to Indonesia from UK due to the high number of cases in Britain. This ban was temporarily lifted in October but, weeks later, was reinstated as Covid-19 cases surged in UK due to the 'Kent' variant and remains in place at date of this report so that the programme advisor was unable to enter Indonesia.

Monitoring and Evaluation: (*Describe the methods used to monitor and evaluate the progress of the project)*

TPCU patrols – results are evaluated, collaboratively, each month and through use of the SMART database to analyse and compare patrol results in time over a multi-year period. Tiger presence and change is evaluated using both Effort to detect tiger sign @ patrol days per tiger and through frequency of encounter (km walked to record) with % of patrols reporting tiger presence using secondary indicators a simple but less accurate tool. Active or recently-active poaching threat to tiger is recorded quantitatively (number of snares, number/% of patrols recording) and Effort (days) to detect snares. Comparing number of tiger and deer snares recorded and patrols recording, produces a ratio of tiger to deer snares and (excluding Ramadan) and outline of poacher focus and change. Patrol 'coverage' is not a key evaluation and monitoring tool due to the adaptive patrol model used and focus to detecting threat, including through use of information networks but planning does draw upon quarterly and six- monthly activity reviews using SMART patrol maps.

Investigations: No of investigation reports logged, and graded (credibility). Investigations securing credible data on blackmarket prices, changes in demand for tiger or other species, new trade routes or identifying previously-unknown individuals (poachers, traders, couriers). Investigations or information collection supporting patrols which record active threat. Number of investigations progressing to A1 (observed first-hand) or A2 (credible but unproven). Number of investigations supporting wildlife law enforcement or other actions in the landscape or by associates in another area of Sumatra. Forest edge communities, in particular farmers, are willing to provide information on suspected active threat to tiger or tiger prey for a patrol response or on an emerging conflict – ideally before livestock predation has occurred.

Law enforcement: Number of pre-planned tiger law enforcement actions conducted and outcomes; number of suspects, evidence and, if Sumatran tiger, condition of evidence (complete or partial body parts, missing body parts). Willingness of other government agencies to partner for law enforcement actions. Law enforcement proceeding from arrest through case development to a court hearing and to sentencing. Judgments made (sentences, fines etc). Availability of suitable Expert Witnesses. Number of habitat and other law enforcement actions on patrols where offenders are present, type of offence, number of offenders, actions taken. Post-law enforcement patrol records and investigations in areas where law enforcement has been conducted advise of law enforcement impact.

Human-tiger conflict mitigation – Number of human-tiger conflict incidents reported, grade (severity) of conflict. Conflicts reported before livestock (excluding farmland guard dogs) predation has occurred and conflicts involving livestock predation or posing direct threat to people. Conflicts mitigated in partnership with other government agencies under multi-stakeholder conflict mitigation taskforce groups (*satgas*) or directly by TPCU personnel. Post-conflict mitigation outcomes, including use of community informants to monitor any recurrence of conflict or reports of poachers entering the area.

Shared learning: *(How will you share the outputs and learning from your project, in what format and with whom?)*

The programme operates under a partnership between Kerinci Seblat National Park and FFI and all TPCU activities and outputs were reported, monthly, to the national park director and subsequently, to forestry headquarters in Jakarta. This system delivers field data and results to the national park director and, subsequently, to national level decision-makers tasked with evaluating progress towards meeting Sumatran tiger and other conservation goals and identifying actions required.

Human-tiger conflict mitigation actions in the east of the national park were reported to the Governor of Jambi province through a multi-stakeholder human-wildlife conflict mitigation taskforce group or '*satgas'* formed in 2018 and, through involving district and provincial government forestry service officers, local government leaders were also informed on human-tiger conflict incidents and the likely factors behind the conflict.

The project team shared findings of interest from patrols and surveys with colleagues in the Sumatran Tiger Conservation Forum (*Forum Harimaukita)* or directly with other tiger conservation programmes in Sumatra and more widely, mainly using social media given ongoing restrictions on travel and face-to-face interactions due to the Covid-19 pandemic.

Media: *(Please provide a list of publications and media both local and national which mentions the work funded by this project and/or mentions WildCats Conservation Alliance)*

Have you provided at least 2 blogs? Y/N? One

Have you provided at least 10 high quality images with details of the relevant credit? Y/N?

Section III. Appendix (Please populate this section with details from section II)	
Did you carry out camera trapping as part of this project? **Yes -** Camera trapping was conducted by the FFI/KSNP tiger monitoring team (MHS) with funding under the (now closed) UNDP tiger project. Camera trapping in the Core Area was conducted by the tiger monitoring team (MHS) between June and September 2020 with support through the UNDP tiger project. For this purpose, the 83,000 ha Core Area was divided into 3kmx3km grid cells with 101 camera trap placements set composing 84 'double' placements and 17 single units. Of 96 camera trapping points where material was available for analysis, 59 secured still or video images of Sumatran tiger with a total of 112 tiger records (*N tiger detections*), a significant increase on previous years; for example, in 2018, of 102 camera traps placed, only 79 *N* tiger detection was recorded. A total of 15 individual tigers (N *tigers*) were identified composing four males, 10 females and one where the gender could not be identified. The number of individual tigers photographed and identified was the highest since camera trapping across the Core Area was first conducted in 2013-14 when 12 individuals were identified. Preliminary analysis of camera trapping results using basic maximum likelihood capture-recapture analysis proposed a decline in density of tiger in the Core Area to 0.8 per 100²km compared with 1.04 per 100²km in 2013-14. However, reanalysis, using *secr– multi session* method, of camera trapping results between 2014-2020 demonstrates that tiger densities in the Core Area have increased from 0.85 (0.49 - 1.49) tiger /100km^2 in 2014 to 0.91 (0.55 – 1.50) tiger /100km^2 in 2020 or an increase of just over 6% and that there was a bias in camera trapping analysis in earlier years due to the model used.	
If yes: **Total camera trap nights/days:** 5,128	**Total area surveyed:** 83,000ha
If yes: **Total distance patrolled:** 1,696Km (Waypoint) 2,454Km (Tracklog)	**Total area patrolled: N/A**
Numbers of tiger: 15	**Have you included data on other species recorded?** Not included.
Did you carry out patrolling as part of this project? Yes	

Do you use Patrol Monitoring software such as SMART? Yes		
If yes: **Total distance patrolled using patrol monitoring software?** 1,696KM (Waypoint) 2,454Km (Tracklog)	**How do you collect data? Handheld devices/paper/other? Please give details?** TPCUs collect data using 'paper tally sheets' with all members of a patrol expected to individually collect data which is then compiled and submitted to the SMART database officer. This system has the benefit of individual rangers being encouraged to actively contribute to data collection and reduces the risk of dependence on an electronic device or single individual.	
Does your project work with local communities? Yes – a bit of work with farmers through this funding, but mostly through other project funding we conduct the village forest initiative.		
If yes: (please be as specific as possible) **Who?** Primarily forest-edge farmers	**What did you do?** Informal relationship-building and raising awareness of wildlife and forest conservation in the course of forest patrols and when mitigating human wildlife conflicts. Relationships built support informal forest-edge information networks where farmers and others may offer information on suspected active poaching threat to tiger and their prey or an emerging human-tiger conflict to TPCU rangers with whom a rapport has been established	**How many people did you reach?** Not enumerated – this is an activity that is situation-dependent
How do you measure the success of this activity?		

Active or recently-active snares or other illegal activity recorded on information-led patrols, human-tiger conflicts reported before livestock predation (with the exception of semi-feral dogs) has occurred. Through co-funding support leveraged with help from Australia Zoo Wildlife Warriors funding, the project team also facilitated another 24 villages towards achieving Village/Customary licences from government with total areas covering more than 24.400 hectares. Of the 24 villages 12 have now received their Customary/Village Forest licenses with total area covered 10,217.93 hectares. Since the end of September 2019, the status of the remaining 12 villages has not changed, and they are still awaiting decree from MoEF.		
Did you carry out educational activities with adults or children? No		
If yes: Who?	**What did you do?**	**How many people reached?**
Have you seen behaviour change from these activities? (Please give details of how this is measured)		
Did you carry out training activities for any staff/community member on the project? Yes		
If yes: (please be as specific as possible) **Who?** Forest police and PPNS from KNSP National Park, SKW I BKSDA Jambi, KPHP Kerinci representatives from community rangers from PHSKS and MHSKS	**What did you do?** Training on crime scene management and strengthening law capacity and competency of the investigators on forest and wildlife crimson 26-27 October 2020 in Sungai Penuh – Kerinci, Jambi Province.	**How many staff trained? How many others trained?** This training was attended by 28 participants (all males)
How do you measure the effectiveness of this training? We had a group of communication using WhatsApp and keep informing any related cases.		

Did you carry out conflict mitigation activities with community members? Yes		
If yes: **Who?** Jambi and Bengkulu Provinces already had a Governor's Decree related on coordination team for mitigating human and wildlife conflict through Governor's Decree of Bengkulu No. 022/2014 on The Coordination Team and Task Force for Managing Human and Wildlife Conflicts in Bengkulu Province and Governor's Decree of Jambi No. 297/KEP.GUB/DISHUT-3/2018 on The Coordination Team and Task Force for Man and Wildlife Conflict Management in Jambi Province. These governor's decree were a followed-up strategy upon the Minister of Forestry's Regulation Number: P.4/Menhut-II/2008 that amended by the Ministry of Forestry's Regulation Number: P.53/Menhut-II/2014 on Guidelines for Human and Wildlife Conflict Management.	**What?** Human wildlife conflict mitigation is carried out based on community reports to the officers of mitigation team. In the field this human wildlife conflict mitigation is carried out by TPCU in collaboration with Forest Police (Polhut) and staff of KSNP, STPN Region 1, KPHP Kerinci, and Section 1 of BKSDA Jambi.	**How main people did this include?** From January to June 2020, only 1 HWC incident was reported to the field staff (Forest Police of STPN 1 Kerinci, Sungai Penuh Resort of KSNP) on April 3, 2020 at 07.30 pm. For the record, conflict mitigation was carried out by preventing the spread of COVID-19 by maintaining a safe distance and using personal protective equipment. The conflict was occurred in Kerinci District, Jambi Province where tigers were seen around the hardened road in Merangin Baru Hamlet, Air Mumu Village, Gunung Raya District. Forest Police Section 1 of the SPTN and TPCU immediately responded the report on April 4, 2020 by directly verified and checked in the conflict area (checking animal footprints, signs of victims etc.) and gathering information from the community. Conflict response speed depends on the distance between the conflict area and the closest team. Coordination was carried out together with all parties involved in or related to the conflict with the

		conclusion of planned meeting with the BKSDA West Sumatera to discuss and involved in the mitigation into the work plan. In coordination meeting, the team had discussed several things including: • Update the current situation of the conflict; • Developing HWC mitigation and management strategies for synergy and evaluating the program that vulnerable to conflict; • Identification of community livestock distribution that vulnerable becoming tiger victims; • Camera traps installation plan and taking drone photos of the conflict area landscape. We examined more than 20 people involved for this HWC efforts.
Have you seen behaviour change from these activities? (Please give details of how this is measured) We can see more flawless effort on coordination for HWC incidents. All the responsible parties involved in the one communication platform using WhatsApp group (WAG). This WAG usually being used for informing all the cases and immediately asking for support from the nearest location to HWC. One of the key progress are the process of coordination of conflict management on a broader scale to assist regional heads (KLHK, 2017) in reducing human-wildlife conflict which generate a map of the conflict incidents and also assess the budgeting in accordance with provincial authorities regarding planning for mitigating and managing human-wildlife conflicts. At the end, it will align the regional development activities with wildlife habitats to reduce the conflict.		
Were any scientific papers/articles published because of your project? Y/N Not during the project period		
If so, please give details or provide copies.		