

# RIPOT SAMERI

## BEKGRAUN NA AS BILONG SEVEI

Niugini em i wanpela ailan we i gat planti kain kain tru ol enimal na pisin na diwai i stap long en. Planti bilong ol dispela enimal na ol pisin na diwai na plent i no stap long ol arapela hap long Graun. Ol kain naispela samting olsem kumul, ekidna na ol sikau bilong diwai em planti lain i save long ol, na ol i bikpela samting tu long kalsa bilong ol pipel bilong Papua Niugini (PNG). Tasol planti lain i no save olsem i gat tu planti ol kain kain diwai na plent na ol liklik enimal long PNG em ol saintis i no kisim gut infomesen bilong ol yet, na olgeta yia, ol saintis i wok long painim moa ol nupela plent na enimal.

Ol stadi i bin kamap bipo long Projek developmen i bin rekodim planti kain kain plent na enimal long Apstrim Projek Eria bilong Papua Niugini Likwifait Nuturel Ges (PNG LNG) Projek. Sotpela ripot bilong ol i stap long ExxonMobil Limited (EMPNG) Biodiversity Strategy i soim olsem (i) bikpela hap bikbus i no gat man i bagarapim yet, (ii) planti kain kain diwai na plent, (iii) planti kain kain enimal na pisin, (iv) ol plent na enimal i save kamap long dispela hap tasol, (v) i gat ol narakain tru ol spises i stap wantaim, (vi) ol diwai, plent, enimal na pisin i stap long konsevesen lista, (vii) ol plent, enimal na pisin ol lokal komyuniti i save yusim long kalsa na ol pasin tumbuna.

Long komitmen bilong en long lukautim na lukim olsem olgeta plent, enimal, pisin, bus, na graun long Apstrim Projek Eria i stap gut, Baiodaivesiti Strateji bilong EMPNG bai i gohet long mekim wok bilong glasim na bosim gut ol wok. Long skelim sapos dispela long-tem strateji i wok gut, EMPNG i kamapim ol wok aninit long foapela Program Monitoring Ektiviti (PMA) Ol dispela PMA bai i givim infomesen o data long skelim wantaim ol Ki Pefomens Indiketa (KPI) i bihainim stret ol bikpela astingting bilong Baiodaivesiti Strateji bilong EMPNG.

We i gat planti kain kain plent na enimal, em i bikpela samting long KPI, na wok bilong rekodim ol senis i kamap, bai i soim sapos Projek i winim ol foapela bikpela astingting bilong Baiodaivesiti Strateji: Holim strong ol samting i stap long ol hap bilong Apstrim eria, Lukautim ol prairiti ekosistem; Stopim ol bagarap inap kamap long ol fokal habitat; na Painimaut, mesa na ofset ol bikpela bagarap inap kamap (EMPNG PNG LNG Biodiversity Strategy: i stap online).

Ol i kamapim Program Monitoring Activity PMA3 long kisim ol hai-kwaliti infomesen long wanem samting i kamap long spises daivesiti long Apstrim Eria bilong PNG LNG Pojek. Astingting bilong PMA3 em long mekim baiodaivesiti sevei, we bai bungim kwantitiv, riptabel data long ol kain kain spises i stap long ol Baiodaivesiti Asesmen Eria (BAA) ol i bin kamapim long ol hap insait na klostu long eria we PNG LNG Projek i bin kamap, na long ol protektet eria ol i bin kirapim insait long dispela baiodaivesiti ofset program bilong EMPNG. Dispela hap tok 'Daivesiti' i karamapim namba bilong ol spises, komposisen bilong ol, na planti moa taget spises sapos yu skelim egensim wanpela difain beslain.

Namba wan PMA3 baiodaivesiti sevei i bin kamap long 2015 long tupela BAA, wanpela long Hides Ridge (BAA 1) na narapela long Agogo Range klostu long Moro (BAA 2). Dispela ripot i soim risal bilong ol dispela sevei; i givim beslain data long baiodaivesiti long dispela tupela BAA we ol monitoring sevei bilong bihain taim i ken skelim, glasim ol baiodaivesiti i stap nau, na wanem kain hevi ol linia infrastraksa korido i ken kamapim, na sapotim astingting bilong EMPNG long was gut long baiodaivesiti i stap long Apstrim Projek Eria.

## Ol de bilong sevei

10 Jun–18 Julai 2015

## Sotpela toktok long sevei eria

Ful ripot bilong ol envairomen long Apstrim Projek Eria i stap long Projek EIS, na ol toktok bilong baiodaivesiti bilong dispela hap i stap insait long EMPNG Biodiversity Strategy. Bikpela hap tru bilong Apstrim Projek Eria em bikbus i karamapim na i gat ol narakain diwai i gro long ol hap i go antap long maunten (Figures 9–13). I no gat data bilong soim stori bilong ren long dispela tupela BAA, tasol Apstrim Projek Eria i stap long ples we i save gat planti ren tru na i karamapim sauten sait bilong ol maunten bilong sentral PNG we long wan wan yia, mak bilong ren i save winim 4,000mm na i no gat senis. Mak bilong ren long dispela eria em i save pundaun strong oltaim, 'Continuously heavy' (McAlpine et al. 1983).

Hap we tupela BAA i bin kamap i stap long Figure (1) na sotpela stori bilong ol envairomen bilong wan wan BAA i stap daunbilo.

## **BAA 1: 10–25 Jun 2015.**

BAA 1 em i stap long Hides Ridge long Hela Provins. Em i karamapim eria i stap namel long mak bilong 2,100 na 2,750 m antap long mak bilong solwara (asl) na ol i brukim long tupela elevesenel ben, wantaim tripela sevei lain i stap long mak bilong 2,100–2,400 m asl long eria namel long Wellpad C na Wellpad D, na tripela lain long mak bilong 2,660–2,780 m asl namel long Wellpad E na G (Figures 2–4).

Insait long dispela tupela elevesen ben bilong Hides Range, i gat lowa monten renfores na diwai ol i kolim *Trisyngyne* (pastaim *Nothofagus*). Long dispela mak bilong maunten, i gat FIMS vejtesen taip LN/LsN 'liklik kraun na liklik kraun tru lowa monten fores wantaim *Nothofagus*' (Figures 9–10). Long dispela mak tu, ples i kol, i wet oltaim na i gat ol mos na i pulap tu long ol liklik plent olsem ol fen, okid na rododendron.

## **BAA 2: 27 Jun–8 Julai 2015.**

BAA 2 i stap long Agogo Range klostu long Moro long Sauten Hailans Provins (Figure 1). Tupela sevei lain i bin stap antap long mak bilong 1,000–1,080 m asl long eria i stap long west hap bilong Arakubi Quarry na is long paipplain rait ov wei (ROW) na tripela sevei lain i stap antap long mak bilong 1,340–1,410 m asl long hap bilong KP107 (Figures 5–7).

Ol bus long BAA 2 i gat planti kain kain diwai na i no gat ol fen na okid i gro long ol. Bus i stap long KP107 em i FIMS taip LsN 'liklik kraun lowa monten wantaim *Nothofagus*'. I gat kain kain diwai na i narakain long BAA 1 na i gat miks *Trisyngyne* bus na *Papuacedrus papuana-Elaeocarpus-Cryptocarya* bus (Figure 11). Tupela FIMS vejtesen taip i stap long Arakubi Quarry. Namba wan em HsN/Hm 'liklik kraun hil fores' wantaim '*Nothofagus*/Medium kraun hil fores' tasol em i stap long eria bilong sekenderi fores daunbilo long 1,000 m asl long isten sait bilong Arakubi (Figure 12). I go moa long west, klostu long ROW, bus long dispela hap em i praimer i o olupela bus, na ol i makim olsem FIMS vejtesen taip LsN/L 'liklik kraun tru lowa monten fores wantaim *Nothofagus*/liklik kraun lowa monten fores' (Figure 13). Long dispela eria, lowa monten fores we *Trisyngyne* i gro bihainim maunten i go antap na kamap long het bilong maunten.

## **Sevei i kamap olsem**

Sevei bilong ol rokrok, ol non - volan mamel, ol dispela mamel i no save flai (rat na mumut), ol blakbokis na taitim net bilong kisim ol pisin, i bin kamap long sikispela pemanen transek, o lain i katim mak, long hap bilong BBA 1 we i bihainim Hides Ridge akses rot na paipplain ROW (Figure 2), na long faivpela pemanen transek i bihainim paipplain ROW long KP 107 (Figure 6, 8) na i stap klostu long Arakubi Quarry (Figure 5). Wan wan bilong ol dispela 11-pela transek i go inap long mak bilong 220–250 m insait long bikbus na i bihainim ROW o arere bilong bus. Mak bilong ol dispela transek i stap long Apendiks 1. Na tu, sevei bilong plent plot na kamera treping i kamap long wankain elevesen ben long BAA 1 na BAA 2 tasol ol wok i bin kamap longwe liklik long ol dispela transek. Long sevei bilong ol plent plot, ol i no laik distebim ples we ol dispela samting i gro. Na long kamera treping, ol i haitim kamera longwe long transek long stopim planti distebens i kamap long kamera trep eria. Ol ples we plant plot na kamera trep i bin stap, em (Figures 3–4 (BAA 1) na 5–7 (BAA 2) na lokesen bilong ol i stap long Sapta 1 na 4.

Pemanen transek metod i kamap long painim aut wanem kain impek ol ektiviti bilong Projek i kamapim long ol dispela eria. Ol transek i stap long ol hap we i bihainim lain (ol kain samting olsem rot, Paipplain, ROW o arere bilong quarry) bai inap long lukim sampela distebens – bikpela distebens bai kamap long arere bilong bus tasol bai no gat bikpela tumas long ol hap we i go insait moa long bikbus. Ol senis bai kamap long arere 'edge effects' we bai gat moa lait bilong san, na win na bai das i kirap na moa nois i kamap. Na arere bilong bus bai lukim tu ol gras nogut na binatang i kamap. Planti bilong ol dispela samting i kamap (edge effect) bai i no inap stap longtaim olsem na dispela 220–250 m transek mak i mas surik i go moa abrusim mak we ol bikpela impek i kamap.

Yumi mas save olsem konstraksen bilong Hides Wellpas akses rot i bin stat long 2011 na ol wok bilong Hides spinline ROW i kamap namel long yia 2013; ol wok bilong stretim bek graun long dispela hap i bin pinis long 2014. Wok bilong stretim bek graun long ROW long KP107 i bin pinis long begin bilong Februari 2013 tasol akses rot i go long KP107, na Arakubi Quarry i bin stap planti yia pinis. Olsem na, ol plent na enimal long bikbus klostu long ol rot na longpela eria we ol i kliaim bus (linia infrastraksa korido), i bin pilim pinis ol senis long samting olsem 1 o 2 yia bipo long dispela 2015 sevei i bin kamap.

Dispela 2015 sevei risal bai soim we sampela ol plent na enimal i stap, na bai soim klia wanem kain senis 'edge effect' i kamapim long laip bilong ol. Long ol yia i kam bihain, data ol i kisim long dispela hap, we ol i yusim wankain metod, bai inap long tok klia sapos sampela bikpela senis i wok long kamap long arere bilong bus na insait tu long bikbus.

## **OL BIKPELA RISAL**

Ol i kisim ripot bilong 579 enimal na plent spises insait long dispela sevei. I gat 35 spises em ol saintis i no save long en (nupela spises) o ol i bin save tasol i no givim yet saintifik nem (i no gat nem yet), na 14 spises i stap long mak i antap liklik long Least Concern lista bilong IUCN. Long ol toktok i stap daubilo, ol nupela spises na ol dispela spises we i no gat nem yet, em ol i makim wantaim dispela mak "sp." na bihain long en em mak bilong unik aidentifaia, (eksampel *Genus sp.* 1). Sotpela ripot bilong ol bikpela risal i stap daunbilo na total namba bilong ol spises i stap long Table 1.

## **Ripot bilong ol spises**

### **Ol plent**

Ol i painim 318 plent spises long 12-pela stended sevei plot we ol i painim 234 long BAA 1 na 140 long BAA 2. I gat 56 spises tasol (17.6 %) i stap long dispela tupela eria wantaim, na i soim olsem tupela i saptim ol narakain plent komyuniti. Ol i kisim sikispela plent spises em i no gat nem yet, namel long ol dispela plent, wanpela tasol em i nupela long saiens. Ol i painim tu tupela plent spises em IUCN i putim long lista bilong 'Near Threatened' na wanpela long lista bilong 'Endangered'. Ol i painim tu tripela plent we i namba wan taim tru i gat ripot bilong ol long ailan bilong Niugini, na tripela arapela i makim bikpela lain spises ol saintis i no save gut long en. Long taim ol i glasim ol vejjetesen straksa na komyuniti komposisen long ol plot i stap longwe long narapela, long ROW, ol i painim olsem ROW i no bagarapim ol plent i stap klostu long en. Tasol tupela grup, ol fern, okid (epiphytes) na mos (bryophytes), i planti tru na ol kain kain i gro arere long bus na i no gro insait long bikbus. Dispela tupela grup i gat ol spises i save gro gut long ples we i drai na i gat lait, kain olsem long ples arere long bikbus. Sevei i painim tupela plent famili, ol filmi fern (Hymenophyllaceae) na ol salat (Urticaceae) em ol gupela mak bilong sekap long taim bilong PMA3 program.

### **Ol rokrok**

Ol i painim 37 spises bilong ol rokrok long dispela sevei long taim ol i yusim tupela kwantetiv na replikabel fil metodoloji: Visual and Audio Encounter (VAES) na acoustics recorder. I gat planti kain kain spises i stap long dispela tupela BAA, we ol i painim 10-pela rokrok spises long BAA 1 long Hides Ridge na 29 long Agogo Range klostu long Moro, long BAA 2. Tupela spises tasol (5.4%) em ol i painim long tupela BAA wantaim.

Moa long hap namba bilong ol rokrok spises ol i bin painim em ol saintis i no givim nem yet long en (n=23;62%) tasol ol i save olsem planti bilong ol dispela rokrok i stap tu long Apstrim Projek Eria. Wanpela bilong ol dispela nupela spises ol i bin painim, i save stap tasol long BAA 2 na jenetik analisis i soim olsem em i makim wanpela nupela jenis gen. Tupela bilong ol rokrok spises ol i bin painim, *Choerophryne burtoni* na *Oreophryne notata*, em IUCN i putim long lista bilong Data Deficient bikos i no gat inap infomesen long we ol dispela rokrok i save stap, na wanem kain hap ol i save laik stap long en; tasol i bin gat planti tru long hap we sevei i bin kamap.

Ol data bilong ples we i bin gat VAES sets na baioakustik rekoda i soim olsem i no gat evidens long soim watpo i gat senis long spises daivesiti o komposisen long taim yu go longwe long ROW long dispela tupela BAA. I kam inap nau, long taim ol i klaim bus long ROW long BAA 1 na long Hides spine-line na long BAA 2 long Agogo Range klostu long Moro, i no bin gat bagarap i kamap long populesen long dispela eria. Ol i skelim olsem i gat planti bilong wan wan spises na dispela i soim olsem i gat sampela "Indiketa Spises" em ol i ken yusim long painim aut long bihain taim sapos i gat senis i kamap long namba bilong spises o nogat.

Ol wok painim aut long bihain taim bai strongim dispela wok bilong painim aut ol senis bilong "edge effect" na wanem kain senis i kamap long ol rokrok na komyuniti komposisen bilong ol. Tasol, ol risal bilong wok i kamap nau i soim olsem ol i no gat senis i kamap long ol rokrok long tupela BAA wantaim.

### **Ol pisin**

Sevei bilong 2015 i bin rekodim 175 spises bilong ol pisin (Hides Ridge – 81 spises; Agogo Range 110 spises), we nainpela spises em ol i no bin lukim long ol sait we sevei i bin kamap long hap bilong Kikori Basin o ol eria i stap klostu. Ol ston o laimston bikbus long Hides Ridge na Agogo Range klostu long Moro em ples bilong planti spesel pisin, sampela bilong

ol i stap long konsevesen lista, ol man I wok long kilim na ol i sot nau, na ol dispela i save stap long wanpela hap tasol. Ol i rekodim sikistin pisin i stap long konsevesen lista, we tripela spises em IUCN i putim long lista bilong Vulnerable (Papuan Eagle *Harpyopsis novaeguineae*, Pesquet's Parrot *Psittichas fulgidus*, Black Sicklebill *Epimachus fastosus*) na wanpela i stap long lista bilong Near Threatened (Robin-tailed *Astrapia Astrapia mayeri*). Lo bilong Papua Niugini i tambu long kilim ol dispela spises i stap long konsevesen lista dispela 2015 sevei i bin painim.

Long olgeta metod ol i testim long 2015, mist netting i no gutpela tumas long yusim long holim na stadi ol pisin long tupela BAA bikos i no isi long putim net long kain maunten ples we i gat planti hul bilong ston. Tasol ol test bilong yusim kamera trep i soim olsem em i gutpela long painim ol pisin na blakbokis na ol rat na mumut (lukim daunbilu). Na tu, test bilong automated sound recording i painim tripela kumul i stap long Hides Ridge (King of Saxony Bird-of-paradise *Pteridophora albertisi*, Black Sicklebill *Epimachus fastosus*, Brown Sicklebill *E. mayeri*). Ol i no inap harim krai bilong ol dispela kumul long bus i stap klostu long ROW tasol long bikbus samting olsem 170 m longwe long rot o ples we ol i kliaim bus. Ol i no klia yet bilong wanem ol dispela pisin i no stap klostu long arere bilong bus.

### **Ol kamera trep**

Wanpela paillet stadi i bin kamap long testim kamera trep na lukim sapos em inap monitarim gut ol wel enimal long tupela BAA. Dispela metod i bin gutpela tru. Kamera i kisim piksa bilong foti nain spises (21 mamel na 28 pisin) long 366 kamera trep na planti ol spises i bin kamap planti taim long piksa. Sampela bilong ol spises i stap long lista bilong konsevesen em kamera i bin kisim piksa bilong ol em Western Montane Tree Kangaroo (*Dendrolagus notatus*; IUCN Endangered). Papuan Eagle (*Harpyopsis novaeguineae*; IUCN Vulnerable, Small Forest Wallaby *Dorcopsulus cf. vanheurni* (IUCN Near Threatened), New Guinea Quoll (*Dasyurus albopunctatus*; IUCN Near Threatened); Woolley's Three-striped Dasyure (*Myoictis leucura*; IUCN Data Deficient) na Greater Melampitta (*Melampitta gigantean*; restricted range). Ol i bin rekodim tu tripela mamel spises na tripela pisin spises, namba wan taim tru long hap bilong Kikori Basin long dispela paillet stadi. Ol risal i soim olsem kamera treping i gutpela wei bilong painim aut moa long ol spises na hamas ol spesel pisin na mamel i stap long ol dispela hap. Long taim ol i mekim wok bilong testim, kamera treping bai i wanpela rot bilong painim aut hamas ol kain enimal na pisin i save hait long dispela hap.

### **Ol non-volan (i no save flai) mamel**

Ol i bin trepim 11-pela spises bilong ol rat na tupela masupiel (mumut) long dispela sevei. Ol tripela narapela spises em ol i rekodim long narapela wei, wanpela em ol i trepim long mist net na lukim long san, narapela em i dai long rot na narapela em long ol bun na tit ol i painim long pekpek bilong dok. Wanpela spises tasol i stap long tupela BAA wantaim em – IUCN Near Threatened New Guinea Quoll (*Dasyurus albopunctatus*). Dispela enimal, kwol, i luk olsem mumut tasol nus bilong em i longpela moa. Ol kamera trep i rekodim tu wanpela monotreme (Short-beaked Echidna, *Tachyglossus aeleatus*), siskispela moa spises bilong ol masupiel em wanpela bilong ol i dispela IUCN Endangered Western Montane Tree Kangaroo, *Dendrolagus notatus*, na foapela moa spises bilong ol rat. Wanpela rat spises bilong narapela hap (Pacific Rat, *Rattus exulans*) em ol i bin trepim long BAA 2 na narapela (Black Rat, *Rattus rattus*) em ol i kisim long Hides Gas Condition Plant.

Wanpela rat spises bilong dispela hap, (*Rattus sp. 'spiny'*) ol i painim long BAA 2 em i no gat nem yet long en, tasol ol i bin painim dispela rat tu long tupela sevei long Hela na Westen Provins. Sampela bilong ol dispela rat spises bilong *Rattus* na *Paramelomys* jenera, i luk wankain tru, na jenetik metod tasol i ken soim klia olsem ol i no wankain. Em i no isi long givim nem long ol dispela spises, tasol jenetik analisis i soim olsem klostu olgeta i gat koneksen wantaim ol rat bilong rijon, tupela tasol i narakain. Ol tupela i narakain em – *Paramelomys*, *P. cf. molis* C ol i painim long BAA 1 na *P. cf. rubex* B – em ol i painim long BAA 2.

Stetistiks bilong ol mamel ol i bin trepim i soim olsem spises bilong *Paramelomys* i no planti tumas insait long mak bilong 100–150 m bilong ROW long tupela BAA wantaim, tasol planti ol rat bilong dispela ples, *Rattus* spises i no wari long ROW. Ol i bin skelim risal bilong enimal ol i kisim long trep long trensek i stap long lowa elevesen long BAA 1 long 2015, wantaim ol bun ol i bin kisim i no longtaim i go pinis, long wanpela hul bilong ston long maunten, long wanpela sevei bipo long konstraksen i bin stat. Long taim ol i skelim, ol i lukim sampela samting i narakain, tasol i no klia yet long wanem as tru, o sapos i soim senis i kamap bikos long senis long ikoloji, na sapos ol senis i kamap bikos long impek bilong Projek.

## Ol blakbokis

Ol rekoding bilong krai bilong blakbokis na treping metod em tupela rot ol i bihainim long rekodim ol kain kain blakbokis komyuniti long olgeta transek long BAA 1 na BAA 2. Ol i bin rekodim krai bilong blakbokis long 66 ful nait we ol i yusim ditekta bilong ol blakbokis em ol i putim long mak bilong 50 mita longwe long narapela, stat long arere bilong bus. Ol i luksave long krai bilong 19 spises bilong ol blakbokis. Wanpela narakain krai tru em ol i rekodim long Arakubi Quarry i no olsem krai bilong ol blakbokis ol i save long en, olsem na ol i ting em i wanpela nupela spises ol saintis i no save yet long en. Ol sevei long bihainim taim i mas traim long holim wanpela bilong dispela blakbokis na ol i ken kisim mofolojikel na jenetik infomesen. Wok bilong aidentifaim na konfemim sampela arapela blakbokis spises tu i mas kamap, wantaim wok bilong jenetik na bilong painim aut moa long krai bilong ol blakbokis.

Ol i yusim kain kain wei bilong mesarim ol blakbokis we ol i painim olsem Species Richness na Phylogenetic Diversity i bikpela moa long ples i daunbilo olsem long mak bilong – 1000 m asl klostu long Arakubi Quarry long BAA 2 we ol i ting ol bikpela ston i kam aut long maunten em ples we ol blakbokis bilong hul bilong ston i save stap. Tasol, i no gat gutpela statistik yet long ol blakbokis daivesiti na komyuniti bilong ol long ples i lusim arere bilong bikbus. Dispela 2015 sevei i no soim sapos sampela bagarap i bin kamap long laip bilong ol blakbokis long taim bilong kliaim bus long wokim ROW.

**Table 1.** Namba bilong ol spises ol i rekodim long 2015 PMA3 Sevei, namba ol i ting i nupela long saiens o i no gat nem yet long en, na namba bilong ol spises i stap long lista bilong IUCN long mak i stap antap long Least Concern.

	Ol Plent	Rokrok	Pisin	Ol Mamel i no save flai*	Blakbokis	TOTAL
Total Spises	318	37	175	28	21	<b>579</b>
Nupela Spises	6	23	0	5+	1+	<b>35+</b>
IUCN Spises	3	2	5	4	0	<b>14+</b>
*I no kaunim tu ol bun long ples slip bilong wanpela aul we i mekim 21 spises						

## Ol ples bilong ol

Ol tupela BAA wantaim i gat planti kain kain laip o baiodaivesiti, we bikbus i stap stret yet na i sapotim planti tru ol nupela na ol konsevesen lista plent, rokrok, pisin na mamel wantaim ol sikau bilong diwai na ol kumul. Tupela BAA wantaim i gat ol spesel eria bilong ol pisin bikos i gat planti ol pisin i stap long konsevesen lista, ol pisin we ol man i save kilim na i no gat planti i stap nau (hunting sensitive), na ol pisin i save stap tasol long wanpela hap (restricted range). Ol bikpela ston maunten bilong Hides Ridge i save haitim gut ol pisin i stap long en long ol pipel i go painim pisin na long taim ol i katim diwai na kukim bus long wokim gaden. Dispela kain pasin bilong wokim gaden i bagarapim planti ol monten bikbus long ol arapela hap bilong PNG. Ol karanas bikbus long hap bilong KP107 tu i sapotim wankain ol enimal, tasol i gat ol narakain spises, wanpela bilong ol dispela em populesen bilong ol Greater Melampitta *melampitta gigantean*, dispela pisin i save stap tasol long wanpela hap.

I gat kain kain ol mamel tu long dispela tupela BAA, na i gat tu ol dispela kain i stap long konsevesen lista, na i gat tu ol nupela spises na ol dispela spises em ol saintis i no givim nem yet long en. Namel long ol non-volant mamel (ol dispela mamel i no save flai), spesel tok save i mas kamap long planti tru ol Small Forest Wallaby, ol saintis i no givim nem yet, i stap long tupela BAA wantaim (tasol i gat moa moa yet long BAA 2). Dispela liklik sikau i famili bilong *Dorcopsulus vanheurni* em IUCN i putim long Near Threatened lista. Long ol narapela hap, dispela liklik sikau i no planti tumas olsem na Apstrim Projek Eria i ken kamap wanpela ples we ol bai stap gut long bihain taim. Na long ol blakbokis, i gat planti kain kain long Arakubi transek we ol bikpela ston i kam aut long ol hul bilong maunten. Populesen bilong ol blakbokis i save stap insait long hul bilong ston, i mas gat ples bilong slip na bilong painim kaikai, olsem na long Apstrim Projek eria we i gat planti ol hul bilong maunten, em i gutpela ples we ol kain spises bilong blakbokis i ken stap gut. Wok bilong was gut long dispela kain ples we ol blakbokis i stap, bai i kamapim bikpela salens, tasol ol blakbokis em wanpela grup i save mekim bikpela wok long kamapim ol diwai samting long ol tropikal bikbus.

Ol wok bilong lukautim ol enimal na pisin long dispela Apstrim Projek Eria long ol yia i kam bihain, i mas save olsem namba bilong ol wankain enimal na diwai long dispela BAA em i daunbilo. As bilong dispela em ating mak bilong maunten we wok i kamap i bin narakain long dispela tupela sait.

## Ol birua

Long taim ol wok i bin kamap long kliam bus long wokim rot na ROW, i bin gat distebens i kamap long ples we ol pisin na ol enimal na ol plent i save stap, sampela i dai na sampela i ranawe. Tasol i gat tupela arapela birua i kamap long taim bilong konstraksen bilong paipain ROW long Apstrim Projek Eria we inap long kamapim bikpela bagarap long ol pisin na enimal. Ol dispela tupela em (1) i no gat gutpela ples bilong ol enimal na plent moa klostu long ROW bikos long ol senis i kamap (e.g. Andrews et al. 2015) na (2) mekim isi long ol pipel i go insait long bikbus (long painim abus na wok gaden) na ol plent bilong narapela hap i kam insait.

Dispela 2015 sevei i bin painim 'edge effect' long sampela plent na enimal grup ol i stadi long en, dispela i karamapim tu ol rat, blakbokis (wantaim sampela dispela senis i bin helpim) na ol pisin (tripela kumul spises, em ol i no harim krai bilong ol klostu long ROW tasol i ken harim insait long bikbus longwe long ol rot na ples we ol i kliaim bus). Tasol i luk olsem dispela distebens i kamap long ol ples i stap klostu long arere bilong bus; sampela bilong ol em ol gras nogut na ol binatang i kamap long arere bilong bus.

Ol data bilong planti yia i kam bihain, em ol i kisim long dispela hap long planti ol sevei i kamap bihain, bai soim ples klia sapos ol dispela senis i pinis o i wok long kamap yet (i kamap bikpela o i go daun liklik). Em bai soim tu sapos ol senis i wok long bagarapim ol arapela enimal na plent long ol hap i stap long Apstrim Projek Eria.

Sevei tim i bin luksave tu long planti ol birua inap kamap long bus na laip bilong ol enimal. Konstraksen bilong ROW na ol rot long ol hap we i bin gat bikbus tru, i mekim isi nau long moa lokal pipel na ol weldok tu, i go insait long painim abus. Antap long maunten long BAA 1, ol i bin lukim ol weldok i kilim ol liklik sikau, Small Forest Wallaby em IUCN i putim long lista bilong Near Threatened. Ol i ting ol weldok i kilim tu ol narapela mamel na pisin i stap long konsevesen lista. Sapos moa birua i kamap long ol bikpela enimal, bai em inap long kamapim tu moa hevi long ol hap i stap longwe long ROW.

Ol i bin painim ol nupela rat long KP107 tasol long BAA 2 we ol i stap tasol arere long bus, na tu long Hides Gas Conditioning Plant. I luk olsem ol dispela rat i stap tasol long hap we ol distebens i bin kamap, tasol ol i stap nau long ol tupela BAA na ol inap long givim sik nogut long ol wel enimal long dispela eria. Dispela i ken kamap long taim ol i bung o wanpela i kilim na kaikai narapela, (eksampel long taim wanpela kwol i kaikaim nupela rat) na long taim wanpela rat i maritim narapela (netiv rat na nupela rat *Rattus spp.*) o long taim jerm nogut i go insait long wara o graun. Long olgeta hap long wol, ol i luksave olsem sapos ol jerm bilong wanpela nupela enimal i kalap long ol netiv enimal, bai em inap long kilim indai ol dispela netiv enimal.

## Ol konklusen

1. Ol risal bilong 2015 PMA3 i soim olsem tupela BAA wantaim i gat kain kain ol enimal na plent long ol hap we sevei i kamap.
2. Ol plent na enimal komyuniti long wan wan BAA i narakain, wan wan bilong ol spises tasol i wankain. Dispela i bihainim mak bilong maunten we ol wok bilong tupela BAA i bin kamap.
3. Tupela BAA wantaim i gat planti spises bilong ol plent, rokrok, marsupial, rat na blakbokis em ol saintisi no givim nem yet long en. Ol i painim nupela spises bilong ol plent na rokrok, na wanpela nupela spises bilong blakbokis em ol i bin rekodim krai bilong en.
4. Tupela BAA wantaim i gat ol enimal i stap long konsevesen lista, ol enimal na pisin i save stap long wanpela hap tasol na ol dispela klostu i pinis nau bikos long ol man i wok long kilim ol. Long Hides Ridge i gat planti ol kain enimal olsem sikau bilong diwai, na ol kumul. Ol ples i stap daunbilo long BAA 2 i gat planti ol rokrok na mamel na sampela spises we i save stap tasol long Apstrim Projek Eria.

5. Sampela ol spises long konsevsen lista, na ol spises em i no bin gat rekod bipo long Kikori Basin, em ol i bin painim long taim ol i yusim ol kamera trep. Dispela i soim tru olsem kamera treping em i gutpela wei bilong rekodim ol kain kain enimal husat i save hait gut tru, insait long dispela sevei eria. Dispela em i sotpela paillet stadi, olsem na ol i ting bai ol i kolektim ol yusful dataset bilong mekim stadi long ol spises long taim ol i skruim wok i go moa.
6. Glasim ol rekoding bilong krai bilong pisin long Hides Ridge, i soim olsem yu no inap harim krai bilong ol tripela kumul klostu long ol kain hap olsem ol rot, tasol inap harim krai bilong ol samting olsem 170 m i go insait long bikbus. I no klia tumas watpo ol i save stap longwe long ol Projek infrastraksa.
7. Sampela bilong ol rat we i no gat nem yet, em ol i luksave long ol taim i bin gat jenetik analisis. Dispela metod i soim koneksen wantaim ol arapela populesen long dispela hap. Tupela rat tasol i narakain.
8. Statistikal analisis i kam long pemanen transek i painim liklik senis long daivesiti o komyunti komposisen long wan wan hap longwe long ROW, na i gat sampela bikpela senis long ol rat. Long olgeta yet, ol dispela senis i stap long liklik eria tasol olsem 50 – 100 m long ples ol i kliaim long ROW. Long ol rokrok na blakbokis, i bin gat sampela samting i narakain, tasol i no gat inap data long tok klia.
9. I bin gat sampela samting i kamapim ol senis long wanpela yia bilong mekim dispela sevei, i soim pawa bilong transek metod long painim ol senis i kamap long olgeta grup bilong ol plent na enimal. Transek data bilong 2015 i makim wanpela beslain bilong ol stadi long bihain taim bilong moa senis long spises daivesiti na komyuniti komposisen.
10. Long olgeta yet, ol prelimeneri risal i soim olsem daivesiti velu bilong Apstrim Projek Eria i stap gut, liklik bagarap tasol i kamap long ol hap i stap klostu long ol infrastraksa bilong Projek. Ol bikpela senis, kain olsem long kraiteria we i mas gat rispons, i no bin stap long ol dispela spises. Tasol, ol i luksave olsem sampela birua inap kamap olsem na bai i mas gat moa wok i kamap long was gut long dispela bihain long ol sevei wok bilong 2017 PMA3 i pinis.