

Date : 2/08/2019 8:30:15 AM

From : "JONES Cameron"

To : "LAWRENCE Paul" , "BROOK Scott" , "Drones Working Group DES"

Subject : FW: QPWS Drones Policy Work

Attachment : EDOCS-#6870281-v2-Flying_drones_in_national_parks_for_recreational_purposes.DOCX;EDOCS-#6670266-v1-EDOCS-drones_JM.DOCX;image003.png;image005.png;image004.png;image006.png;image007.png;

Hi All

Please see the below email from Rebecca FYI. I will add all these documents to the sharepoint/Teams. As discussed I can look into compiling a procedure/policy using these documents and the others we have sourced from DAF etc.

Scott as mentioned below do you have any draft SOPs or risk assessments?

Cheers



Cameron Jones

Senior Policy Officer, Digital Futures and Ventures
Digital and Information Services, Science and Technology
Department of Environment and Science

Ph: 07 3199 7599

GA East, Ecosciences Precinct
41 Boggo Road, Dutton Park QLD 4102

From: BATTON Rebecca

Sent: Thursday, 1 August 2019 4:50 PM

To: JONES Cameron

Subject: RE: QPWS Drones Policy Work

Hi Cameron

sch3(2)(1)(a) Cabinet matter - For consideration by Cabinet

Cheers, Bec



Rebecca Batton

Senior Policy Officer
Parks and Forests Policy I Protected Area Strategy and Policy
QPWS & Partnerships
Department of Environment and Science

P 07 3199 7259

Level 4, 400 George Street, Brisbane QLD 4000
PO Box 15187, City East QLD 4001

Monday - Wednesday - West Burleigh; Thursday & Friday - Brisbane
Workgroup inbox: parkspolicy@des.qld.gov.au

From: TRSTENJAK David <David.Trstenjak@des.qld.gov.au>

Sent: Thursday, 1 August 2019 2:38 PM

To: JONES Cameron; BATTON Rebecca

Subject: RE: QPWS Drones Policy Work

Hi Cameron,

Yes – Tige mentioned your call, but then I didn't write it down and forgot – sorry!

I just have to listen into Minister Fentiman's estimates debate in case anything comes up for Moreton Island or Stradbroke Island.

Bec – can you please look at what was done previous by Diana to see if there is anything that may be useful for Cameron.

Thanks

David Trstenjak

A/Manager

Parks and Forests Policy I Protected Area Strategy and Policy
Protected Area Strategy & Investment I QPWS & Partnerships



Department of Environment and Science

P 07 3199 7576 | E David.Trstenjak@des.qld.gov.au
Level 4, 400 George St, Brisbane
PO Box 15187, City East QLD 4002

From: JONES Cameron <Cameron.Jones@des.qld.gov.au>

Sent: Thursday, 1 August 2019 2:05 PM

To: TRSTENJAK David

Cc: Drones Working Group DES

Subject: QPWS Drones Policy Work

Hi David

I work as the secretariat on the DES Drones working group (chaired by Paul Lawrence and sponsored by Ben Klaassen) and was given Todd Kelly's name in regards to some previous policy work conducted regarding drones in association with Scott Brook. Todd's phone was forwarded to yours and yesterday I spoke with one of your team members about accessing some information on the work that had been conducted, and any resources you would be able to share. Currently the working group I am on is looking into developing a DES wide drones policy, and we would love to investigate what work was already started in this space. If you could please give me a call to discuss that would be greatly appreciated.

Kind regards



Cameron Jones

Senior Policy Officer, Digital Futures and Ventures
Digital and Information Services, Science and Technology
Department of Environment and Science

Ph: 07 3199 7599
GA East, Ecosciences Precinct
41 Boggo Road, Dutton Park QLD 4102

Flying drones in protected areas for recreational purposes

Currently, there is no requirement to obtain a permit to fly a drone in a protected area for recreational purposes, provided—

- the drone is under 2kg;
- the operator does not fly the drone within 30 metres of people (excluding the operator/s);
- the drone is used in a way that minimises disturbance to people in the area;
- the drone use is not for commercial benefit;
- the drone use is consistent with the requirements set out by CASA (see link below); and
- there is no regulatory notice at the park prohibiting the operation of a drone at that location without an approval.

Civil Aviation Safety Authority (CASA) requirements

When operating in protected areas, drone operators must comply with all CASA requirements.

Please refer to the CASA website for further information via this link –

<https://www.casa.gov.au/aircraft/landing-page/flying-drones-australia>.

Minimum flying height restrictions over certain national parks

Some protected areas have specific ‘minimum height’ restrictions. Operators must not fly a drone below the minimum height (1500 feet or about 450 metres) over the national parks listed below.

This applies to all RPA and to all RPA weight categories, and to commercial and non-commercial use.

- Capricornia Cays National Park (scientific), specifically—
 - East Fairfax Island
 - East Hoskyn Island
 - West Fairfax Island
 - West Hoskyn Island
 - Wreck Island
- Capricornia Cays National Park, specifically—
 - Erskine Island
 - Heron Island
 - Lady Musgrave Island
 - Masthead Island
 - North West Island
 - Tyron Island
 - Wilson Island
- Carnarvon National Park
- Currawinya National Park
- Hinchinbrook Island National Park

Note – if the use is for commercial purposes a permit will be required – contact the Assessments and Approvals Team via parkaccess@des.qld.gov.au. In addition to CASA requirements to maintain necessary distances from people, the Department of Environment and Science requests that you operate your drone in a manner which does not cause a nuisance to other park users or interfere with wildlife.

Date : 3/12/2019 3:45:19 PM
From : "AUGUSTEYN John"
To : "NOLAN Barry" , "RICH Maree"
Subject : FW: XT2 Inquiry
Attachment : signature-enterprise-ten.jpg;

From: [REDACTED] <[REDACTED]@d1store.com.au>
Sent: Tuesday, 3 December 2019 3:44 PM
To: AUGUSTEYN John
Subject: XT2 Inquiry

Hi John,
I just tried giving you a call regarding your query to FLIR about the XT2.
I will try and give you a call tomorrow, in the meantime don't hesitate to reach out.

What drone are you looking at using the XT2 on?

For pricing, there are quite a lot of variances of the XT2 depending on lens type, resolution (336x256 or 640x512) and framerate (9Hz or 30Hz). They start at \$10,499 and go up to \$23,699. These are retail prices, depending on which solution you might be after I can offer discounts on these.

Depending on the type of drone you are looking at using this on, we do also offer other FLIR cameras. The FLIR Duo Pro R is very similar to the XT2 and at a lower price point.

Look forward to discussing with you.

Best Regards,

[REDACTED] <[REDACTED]>

Head Enterprise Consultant | ENTERPRISE DIVISION

M: [REDACTED]

T : 1800 888 354

W : www.d1store.com.au



Date : 16/03/2018 10:24:54 AM

From : "MOORE Peter"

To : "Corro QPWS Northern CR"

Subject : FW: FOR ACTION PLEASE: Information Request for Drone Policy Working Group - by 16 March please

Attachment : 2018-19 Drone Asset Schedule QPWS - updated 20180216 ARN.XLSX;FW: FOR ACTION PLEASE: Information Request for Drone Policy Working Group - by 16 March

please;image001.png;image010.jpg;image011.png;image004.jpg;image002.png;image003.png;image005.png;image006.png;image009.png;image013.png;image014.png;

Karen

I have added it in to the spreadsheet.

I do not currently have Eddies ARN – I have inserted Eddie's name and indicated TBA.



Peter Moore

Principal Ranger, Capricornia

Central Queensland Region | Queensland Parks and Wildlife Service

Department of Environment and Science

P 07 4936 0101

61 Yeppoon Rd, Nth Rockhampton

PO Box 3130, Nth Rockhampton 4701

I acknowledge the Traditional Owners on whose land I work and live. I pay my respects to all elders past, present and future.

From: Corro QPWS Northern CR

Sent: Friday, 16 March 2018 10:01 AM

To: MOORE Peter <Peter.Moore@des.qld.gov.au>

Subject: FW: FOR ACTION PLEASE: Information Request for Drone Policy Working Group - by 16 March please

Importance: High

Hi Peter,

-Actioned – Word document populated

-Outstanding task:

Vanessa needs the ARN Number and ARN held by. Can you please let me know what to add?

Karen

Agency Name or Business Unit	QPWS Internal Contact Officer	Aviation Reference Number (ARN)	ARN held by
Northern Region - Assets & Safety	Colin Dollery	812715	Colin Dollery
Northern Region - Ingham Mgmt Unit	Colin Dollery	812715	Colin Dollery
Central Region (Fitzroy Management Unit)	Marty McLaughlin		
Central Region (Fitzroy Management Unit)	Marty McLaughlin		
Technical Services	Matt Nash-Arnold	1035506 TBA	Marcus Toyne James Wilson

From: HARRIS Leigh

Sent: Friday, 16 March 2018 8:30 AM

To: CURTIS Karen

Subject: FW: FOR ACTION PLEASE: Information Request for Drone Policy Working Group - by 16 March please

Importance: High

Karen

Can you please populate the word document in share point with the answers below in Peter's email as per V's request.



Leigh Harris

Regional Director Central

Queensland Parks and Wildlife Service

Department of Environment and Science

P 07 4999 8526 **(6) Personal int**

Level 5, 44 Nelson Street, Mackay QLD 4740

Po box 623, Mackay QLD 4740

I acknowledge the Traditional Owners on whose land I work and live. I pay my respects to all elders past, present and future.

From: MOORE Peter

Sent: Thursday, 15 March 2018 5:38 PM

To: HARRIS Leigh <Leigh.Harris@des.qld.gov.au>

Cc: CURTIS Karen <Karen.Curtis@des.qld.gov.au>

Subject: FW: FOR ACTION PLEASE: Information Request for Drone Policy Working Group - by 16 March please

Importance: High

Leigh

Comments noted and thanks for the feedback.

My comments and edits are in yellow highlight.
Your edits are fine with me.



Peter Moore
Principal Ranger, Capricornia
Central Queensland Region | Queensland Parks and Wildlife Service
Department of Environment and Science

P 07 4936 0101
61 Yeppoon Rd, Nth Rockhampton
PO Box 3130, Nth Rockhampton 4701

I acknowledge the Traditional Owners on whose land I work and live. I pay my respects to all elders past, present and future.

From: HARRIS Leigh
Sent: Thursday, 15 March 2018 11:03 AM
To: MOORE Peter <Peter.Moore@des.qld.gov.au>
Cc: CURTIS Karen <Karen.Curtis@des.qld.gov.au>
Subject: FW: FOR ACTION PLEASE: Information Request for Drone Policy Working Group - by 16 March please
Importance: High

Peter
I have included additions in red – if these are wrong or out of scope cross through.
I have put in questions and comments for clarification in green.

I do not think we need a Drone advisory Group or a state wide reference group these should only be considered if there is a legal obligation or ample justification – this has not been demonstrated in your advice. For me governance without stifling operations and innovation is key and utilise existing structures eg the Assets team

The advice and presentation is clunky and will require a bit of work on my part to get it to a standard to submit including populating the share point document (I will ask Karen to do this). Please give some thought to presentation in future or at least follow the request. The use of share point makes it easier for everyone.

L



Leigh Harris
Regional Director Central
Queensland Parks and Wildlife Service
Department of Environment and Science

P 07 4999 8526 (6) Personal info
Level 5, 44 Nelson Street, Mackay QLD 4740
Po box 623, Mackay QLD 4740

I acknowledge the Traditional Owners on whose land I work and live. I pay my respects to all elders past, present and future.

From: Corro QPWS Northern CR
Sent: Wednesday, 14 March 2018 4:21 PM
To: HARRIS Leigh <Leigh.Harris@des.qld.gov.au>
Subject: FW: FOR ACTION PLEASE: Information Request for Drone Policy Working Group - by 16 March please
Importance: High

Leigh,

For your review.

-This request originally came from Vanessa while you were away (attached here)
-Peter has draft a response with Anthony and Marty inputs.

This is due back on the 16th



Karen Curtis
Administration Officer
Central Region | Queensland Parks and Wildlife Service
Department of Environment and Science

P 07 4999 8531
Level 5, 44 Nelson Street, Mackay QLD 4740
Po Box 623, Mackay Qld 4740

From: MOORE Peter
Sent: Wednesday, 14 March 2018 8:44 AM
To: CURTIS Karen
Cc: CONTARINO Anthony; MCLAUGHLIN Marty
Subject: FW: FOR ACTION PLEASE: Information Request for Drone Policy Working Group - by 16 March please

Karen

Below is the proposed regional response back to Vanessa by 16 March.
Comments have been included from a range of regional sources including Tech Support and operations.
The proposed to the items raised is in blue.

Answers to Questions

- 1) Answer the questions in the Word document on Sharepoint called "Drone use on QPWS managed areas": <http://team:6002/nprsr/qpws/oddg/es/SitePages/Home.aspx>
Refer to the answers provided below – Karen please populate word doc
- 2) update the Excel register on Sharepoint ("2018-19 Drone Asset Schedule QPWS - updated 20180216 ARN") to include the **Aviation Reference Numbers** of the drones that your areas own: <http://team:6002/nprsr/qpws/oddg/es/SitePages/Home.aspx>
We have not provided the information relating to the ARN for each drone. – I will include this in covering email
Aviation reference Numbers (ARN) are only issued to people or organisations – not to drones.
Refer to- <https://www.casa.gov.au/licences-and-certification/standard-page/aviation-reference-number-frequently-asked-questions>
The region has no new drones.

Information on the attached sheet is correct and no changes/additions have been made.

What are your area's concerns and issues regarding the use of drones by Staff?

Staff understanding and complying with the required CASA regulations covering use of drones, this includes SRs, RICs & drone operators

At the lowest commercial drone user level, operators must:

- have a personal Aviation Reference Number (ARN)
- the drone must be in sight at all times by the operator
 - o this significantly limits the distance the drone can be from the operator
 - o generally this would be less than 600 metres – on a good day, from a high point, for the larger Phantom
- max weight – 2 kg
- max height – 120 m above ground level (AGL)
- not fly in restricted zones – e.g. near airports and defence zones such as over parts of Byfield SF and NP.

The department should have a Drone Advisory Group (DAG) to oversee all aspects of drones.

~~The group should provide a standard list of drones that may be purchased – as per firearms and vehicles.~~

~~Use of drones outside the list is only permitted with approval of the DAG~~

Without constraining innovation and application because drones are just another tool for management some governance arrangements are required around, type, procurement, use, operators, quals, training, etc.

Drone operators:

- should require approval from the DAG
- should be required to undertake formal or on the job training
 - this training/accreditation/qualification should be identified by the DAG
- should be restricted to a small number of rangers
 - i.e not all rangers will be trained to fly drones
- must complete an approved flight log on every flight. Why? Is this an obligation? Yes it is a CASA requirement
 - Standard flight logs should be stored centrally (like firearms) and reviewed by SR regularly to ensure ongoing compliance with CASA legislation and SOPs, policy etc.

There should be standard documentation for the use of drones on QPWS estate.

- The documents provided in your email are an excellent start

There should be one whole of government drone reference group that has the licence for all Qld Govt drone use.

This whole of government group would cover:

- commercial sub 2 kg drones – these are the drones we are most likely to use
- commercial > 2 kg – drones requiring Remote Pilot Licence (RePL) and Remote Operators Certificate (ReOC)

Requiring each agency to cover off on the licensing requirements for commercial > 2 kg drones is seen as inefficient

There needs to be a clear frame of reference for the departmental use of Drones.

Without this staff may start to devise strategy and subsequent operations in direct reference to Drone capability rather than assessing the need on its own merits. Most important bit of advice so far Thank you.

Drones are an aviation tool and should be managed as such.

What potential uses do your Staff see for drones in the Region?

Fire - assisting at planned burns and wildfires

- Mapping of fires
- Situational awareness for staff on the fire line
 - portable fire tower – current position of fire
- Check integrity of fire lines/creeks, hot spots
- Patrolling fire edges off fire lines that would otherwise need to be patrolled on foot
- Checking for spot overs, assist in determining size of spot over, and route into spot over
- Post-fire monitoring
- Pre-burn checks, - fuel around power poles, & other infrastructure
- Checking fire rate of spread
- Checking fire behaviour beyond impassable areas, - creek crossings, eroded fire lines, fallen trees or other obstacles.

Pest - assist in the management of pests

- Mapping extent and impact
- Presence and absence of pests
 - able to monitor impacts on priority values that have proven extremely difficult to assess effectively to date
 - fresh water/saline wetland impacts from feral pigs;
 - woody weed invasion in difficult to access areas e.g. channel country; Beach scrubs, etc.
 - There is also a role for using thermal cameras to detect presence of pest species and to monitor recovery of cryptic threatened species following control programs as well as priority species that occupy inaccessible habitat areas e.g. threatened rock wallabies.
- In more remote areas it is going to be very expensive/difficult to get commercial operators to undertake these tasks so it is going to be critical that there is an option to be able to do the work ourselves. Increasing confidence in monitoring of pest impacts, distribution and successful control as well as being able to demonstrate recovery of impacted species should be a key role for drones.

Disaster response – being able to provide images of damage/status of strategic sites, roads and tracks

Estate management – assist in inspection of areas that are be easier/safer to access with a drone

Asset Management – inspection of lookouts and other difficult to access areas

Marketing – collection of images for publicity purposes

Monitoring and Health Checks – for all the reasons listed above.

Application of drones will have a the significant potential to ensure greater staff safety and welfare across all areas of QPWS operations

What are your area's concerns and issues regarding the use of drones by the public?

Lack of compliance with CASA regulations.

Lack of consideration for other members of the public and impact to amenity.

Lack of knowledge on impacts their drones may have on wildlife and visitor amenity

What are your area's concerns and issues regarding the use of drones by contractors for QPWS?

Contractors are likely to provide a range of advantages such as:

- being able to fly larger more capable drones and under conditions not permitted by most staff – e.g. fly out of sight/ at night
- provide access to specialist equipment – e.g. thermal FLIR cameras

Cost and availability – particularly in areas away from populated areas

Who has the ownership of the images/information and what use can be made of the recorded images/information

What are your area's concerns and issues regarding the use of drones by authority holders and commercial operators?

Impact on visitor amenity

There should be a requirement to:

- notify QPWS of the proposed use of a drone and the reasons/purpose of the use **why?**

Commercial operators are likely to be visiting high visitation areas. Use of drones at many high visitation areas would not be appropriate.

Authority holders – graziers, towers it would be a lesser concern and part of their doing business effectively.

—demonstrate they understand and comply with all relevant CASA conditions **is that not CASA's concern** Yes you are correct, the concern will be in high visitation sites.

An ability for QPWS to easily condition or refuse the use of the drone.

Do you have information that you would like to share with the Drones Policy Working Group?

Drones need to be seen by the department as a valuable decision support tool for increasing safety, efficiency and awareness of field staff.

They need to be seen as having a limited life and requiring regular replacement

There needs to be a clear frame of reference for the departmental use of Drones.



Peter Moore
Principal Ranger, Capricornia
Central Queensland Region | Queensland Parks and Wildlife Service
Department of Environment and Science
P 07 4936 0101
61 Yeppoon Rd, Nth Rockhampton
PO Box 3130, Nth Rockhampton 4701

I acknowledge the Traditional Owners on whose land I work and live. I pay my respects to all elders past, present and future.

From: LOSADA Vanessa

Sent: Tuesday, 6 March 2018 7:28 PM

To: LEGGETT Rhonda; ORGILL Dave; HARRIS Leigh; WEBB Alison; REDENBACH Glenn; CUBIS Mick; BRITTINGHAM Geoff; SIEBUHR Michael; WARING Brett; CRADICK Adam; THOMAS Guy

Cc: CURTIS Karen; Corro DES QPWS DDG; Corro DES QPWS Park Services; Corro QPWS Southern SWR; Corro QPWS gbrmci GBR MPR; Corro QPWS Northern CR; Corro QPWS Northern NR; VETTER Alexander; Corro QPWS Southern SEQR; Corro QPWS gbrmci CIR

Subject: FOR ACTION PLEASE: Information Request for Drone Policy Working Group - by 16 March please

Hello RDs and Directors (and Permissions Management ED)

The Drones Policy Working Group has been established by the Policy and Legislation Unit to:

- Facilitate the collection of current information, practices and issues relating to drone use on QPWS managed areas;
- Review this material and where necessary prioritise it for action
- Serve as a forum for discussion and collection and dissemination of information across DES regarding drone use
- Contribute to the policy development program

The policy and legislation unit will be developing a policy regarding the use of drones on QPWS managed areas in the next 3 months. This policy will cover use by the public, contractors, DES staff, authority holders and commercial operators.

Please find attached minutes from our first meeting - FYI.

QPWS owns in total 15 drones (as of 20/2/2018) which are used for estate management activities including pest, fire, asset and visitor management, compliance, conservation projects, monitoring, mapping, filming, photography and surveys.

We have found that since regions are using drones for all these activities they have developed several SOPs, which I have attached in this email for information sharing. The working group will be looking at consolidating the information into one document to ensure consistency across the state.

If you could please ask your areas to **ACTION** the following by **16 March 2018**:

- 1) Answer the questions in the Word document on Sharepoint called "Drone use on QPWS managed areas": <http://team:6002/nprsr/qpws/oddg/es/SitePages/Home.aspx>
- 2) update the Excel register on Sharepoint ("2018-19 Drone Asset Schedule QPWS - updated 20180216 ARN") to include the **Aviation Reference Numbers** of the drones that your areas own: <http://team:6002/nprsr/qpws/oddg/es/SitePages/Home.aspx>

You can answer the questions for 1) as well via email reply (to me only please) if you like, and I can collate into the document:

What are your area's concerns and issues regarding the use of drones by Staff?

What **potential** uses do your Staff see for drones in the Region?

What are your area's concerns and issues regarding the use of drones by the public?

What are your area's concerns and issues regarding the use of drones by contractors for QPWS?

What are your area's concerns and issues regarding the use of drones by authority holders and commercial operators?

Do you have information that you would like to share with the Drones Policy Working Group?

Happy to answer any queries.

Thanks
Vanessa



Vanessa Losada
A/ Manager
Office of the Deputy Director General | Queensland Parks and Wildlife Service
Department of Environment and Science
P 07 3199 7513 M **6) Personal inf**
Level 5, 400 George Street, Brisbane QLD 4000
www.npsr.qld.gov.au

Date : 7/03/2018 8:58:29 AM
From : "MCLAUGHLIN Marty"
To : "MOORE Peter" , "CONTARINO Anthony"
Cc : "Corro QPWS Northern CR"
Subject : FW: FOR ACTION PLEASE: Information Request for Drone Policy Working Group - by 16 March please
Attachment : EDOCS-#6201058-v1-EDOCs - _6197813 - _meeting-minutes_14_2_18_-_1_(002).docx;DRAFT Drone SOP.DOCX;Draft risk assessment for RPA.DOCX;DRAFT Senior Ranger - Operator approval checklist and record.docx;RPA FLIGHT LOGBOOK.DOCX;Drone Use at Raine SOP.DOCX;image001.png;image005.png;image007.jpg;image002.png;

Peter

Do you want to take lead on coordinating regional advice to the below information request on drones.

Happy for Tech Support to coordinate but you may have more knowledge and passion in your Area.

Marty McLaughlin
Principal Ranger (Central Region)
Department of Environment and Science
Phone: (07) 4796 7790
Mobile: (6) Personal info
eFax: (07) 3607 2212
Email to : marty.mclaughlin@des.qld.gov.au
Visit us online at www.des.qld.gov.au

From: Corro QPWS Northern CR
Sent: Wednesday, 7 March 2018 8:49 AM
To: MCLAUGHLIN Marty <Marty.McLaughlin@des.qld.gov.au>
Cc: Corro QPWS Northern CR <QPWSnorthernCR.Corro@des.qld.gov.au>
Subject: FW: FOR ACTION PLEASE: Information Request for Drone Policy Working Group - by 16 March please

Last year request was sent to Claire
Claire sent it to Peter's team to action as the only 2 drones where in Cap.

-I followed this up with Peter and Samuel Richards and made sure this was actioned.

Let me know if same process than last year.

Karen

From: LOSADA Vanessa
Sent: Tuesday, 6 March 2018 7:28 PM
To: LEGGETT Rhondda; ORGILL Dave; HARRIS Leigh; WEBB Alison; REDENBACH Glenn; CUBIS Mick; BRITTINGHAM Geoff; SIEBUHR Michael; WARING Brett; CRADICK Adam; THOMAS Guy
Cc: CURTIS Karen; Corro DES QPWS DDG; Corro DES QPWS Park Services; Corro QPWS Southern SWR; Corro QPWS gbrmci GBR MPR; Corro QPWS Northern CR; Corro QPWS Northern NR; VETTER Alexander; Corro QPWS Southern SEQR; Corro QPWS gbrmci CIR
Subject: FOR ACTION PLEASE: Information Request for Drone Policy Working Group - by 16 March please

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- Review this material and where necessary prioritise it for action
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19-211 File G

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<http://team:6002/nprsr/qpws/oddg/es/SitePages/Home.aspx>
- 2) update the Excel register on Sharepoint ("[2018-19 Drone Asset Schedule QPWS - updated 20180216 ARN](#)") to include the **Aviation Reference Numbers** of the drones that your areas own: <http://team:6002/nprsr/qpws/oddg/es/SitePages/Home.aspx>

You can answer the questions for 1) as well via email reply (to me only please) if you like, and I can collate into the document:

What are your area's concerns and issues regarding the use of drones by Staff?

What potential uses do your Staff see for drones in the Region?

What are your area's concerns and issues regarding the use of drones by the public?

What are your area's concerns and issues regarding the use of drones by contractors for QPWS?

What are your area's concerns and issues regarding the use of drones by authority holders and commercial operators?

Do you have information that you would like to share with the Drones Policy Working Group?

Happy to answer any queries.

Thanks

Vanessa

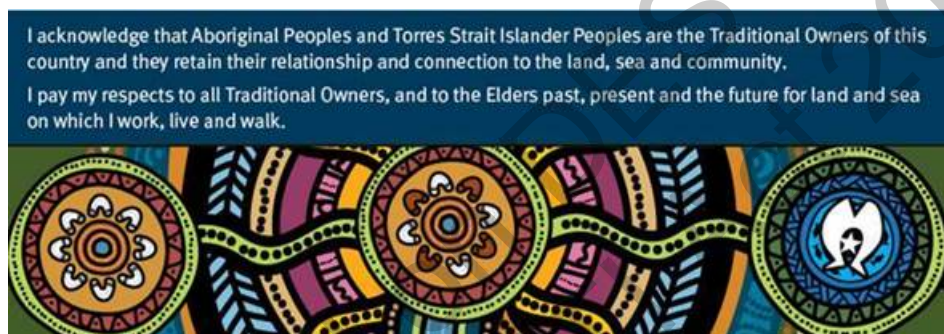


Vanessa Losada

A/ Manager

Office of the Deputy Director General | Queensland Parks and Wildlife Service
Department of Environment and Science

P 07 3199 7513 M 6) Personal info
Level 5, 400 George Street, Brisbane QLD 4000
www.npsr.qld.gov.au



From: HUGHES Diana

Sent: Monday, 26 February 2018 11:29 AM

To: KELLY Todd <Todd.Kelly@des.qld.gov.au>; LOSADA Vanessa <Vanessa.Losada@des.qld.gov.au>; UDY Nicola <Nicola.Udy@des.qld.gov.au>; MANNING Brett <Brett.Manning@des.qld.gov.au>; CONNELL Lara <Lara.Connell@des.qld.gov.au>; BROOK Scott <Scott.Brook@des.qld.gov.au>

Subject: Drone meeting minutes

Hi everyone,

Here are the final minutes from our meeting on the 14th February.

I'm hoping to send around the discussion paper for your comment fairly soon.

Cheers,

Diana

Diana Hughes

A/Senior Policy Officer

Policy and Legislation

Protected Area Innovation, Engagement and Policy

Department of Environment and Science.

19-211

File G

Page 10 of 112

Published on DES Disclosure Log
RTI Act 2009

Meeting minutes

Use of drones on QPWS managed areas

Details

Subject	Use of drones on QPWS managed areas
Chair	Todd Kelly
Meeting type	First meeting of working group
Date and location	14 th February 2018 Room 4.18 400 George St, Brisbane
Timing	1:00pm – 2:30pm
Distribution	Working group members

Present

Name	Job title	Position/representation
Nicola Udy	Manager	Marine Resource Management
Brett Manning	Principal Policy Officer	Conservation and Biodiversity Policy
Tracy Carsburg	Director	Innovation and Engagement
Scott Brook	A/Senior Project Officer	Innovation and Engagement
Vanessa Losada	A/Manager	Executive Services
Lara Connell	A/Manager	Assessments and Approvals
Todd Kelly	Manager	Policy and Legislation
Diana Hughes	A/Senior Policy Officer	Policy and Legislation

Apologies - none

Agenda Items

Item #	Discussion
	<i>Background information</i>
1.	<p>The purpose of the working group is to:</p> <ul style="list-style-type: none"> Facilitate the collection of current information, practices and issues relating to drone use on QPWS managed areas; Review this material and where necessary prioritise it for action

- Serve as a forum for discussion and collection and dissemination of information across DES regarding drone use
- Contribute to the policy development program

The use of drones is regulated by the Civil Aviation Safety Authority (CASA), however this is only in relation to safety concerns and permissible airspaces for use, and does not consider other impacts, such as visitor amenity, disturbance of wildlife, public nuisance and privacy factors. A policy regarding use of drones by the public was developed in 2015, but this policy needs to be updated to include other uses and changes in the regulatory environment. The policy and legislation unit will be developing a policy regarding the use of drones on QPWS managed areas in the next 3 months. This policy will cover use by the public, contractors, DES staff, authority holders and commercial operators.

Material including the Department's Guideline on the Privacy and the Use of Drones, and several journal articles regarding drones and environmental impacts/regulation were circulated.

Current CASA regulations

Outlined in attached document.

2. Vanessa confirmed that ELT has not considered the matter of Aircraft Registration Numbers (ARN's) and would investigate how many drones are currently owned by the Department and who they are registered to.

Discussion also occurred regarding training and operator certification and disparity between CASA maximum height operating limits and approach distances for wildlife such as whales.

QPWS legislative environment

It was acknowledged that there are opportunities to assist staff manage drone use through to better articulation of regulations which could occur through reviews of the Nature Conservation Regulations and the Marine Parks Regulation.

Currently sections under the Acts that can be used to regulate the use of drones are:

- 3.
- 1) a person must not unreasonably disturb someone else in the area or do anything that interferes, or is likely to interfere with the health or safety of the person or someone else in the area
 - 2) a person must not disturb (approach, harass, harm, lure, pursue, tease or touch) an animal which is dangerous, venomous or capable of injuring a person or if there is a regulatory notice prohibiting the disturbance of the animal
 - 3) a person must not take (including to attempt or otherwise to pursue, lure, injure or harm) a protected animal without authorisation. However was it must be proven that the activity was directly towards the taking and did not happen in the course of a lawful activity that was not directed towards the taking and could not have been reasonably avoided.

Discussion regarding the Queensland Drones Strategy

The Department of Premier and Cabinet released the Queensland Drones Strategy which aims to position Queensland as world leader in drone technology and use where drones complement and enhance Queenslanders' lives and support communities. The Strategy aims to maximise research and development opportunities while protecting Queenslanders' rights and ensuring safety and security. The strategy outlines actions which Queensland Government Departments will undertake. Of particular interest to DES are two actions:

- 4.
- 1) The Department of Transport and Main Roads will lead the development of an internal Queensland Government Drones Use Policy that provides information to all Queensland Government agencies regarding the use of drones including requirements such as the operation, safety, security, data collection, information management, and procurement of drones. This policy will be delivered in 2018 and help to ensure the Queensland Government is providing a good example as a model drone user and provide Queensland Government agencies with greater confidence to uptake drones to make services better and more efficient.
 - 2) The Department of Environment and Science will develop a 2018 action plan to use drones to identify species and assess numbers of flying-foxes in roosts. This will allow the efficient and effective collection of critical environmental management information.
-

5. *Outline of what other States/Territories, local councils and other countries are doing*
All other States and territories in Australia, except Canberra and Queensland, have developed policies about the use of drones in conservation areas.

Discussion regarding uses some possible issues with the use of drones on protected areas
There has been a marked increase in the use of drones on lands managed by QPWS in line with the general market trend. Use is also diversifying from the initial surge in popularity for recreational use into other uses such as commercial, scientific purposes, land management and wildlife monitoring activities.

QPWS is currently using drones as part of land management activities such as wildlife monitoring, fire and pest management, asset and safety inspections, and marketing purposes. It is not seen that this use will create problems however there is a need to provide guidance to ensure consistency. Scott indicated he was undertaking a 'model review' to develop recommendations on the characteristics of a number of different drones to assist with departmental selection..

6. Currently, the general public can use drones for recreational use in protected areas in line with CASA regulations. One of the issues is that people do not always adhere to these regulations and QPWS staff do not have compliance powers under these regulations. QPWS has previously received complaints from the public about nuisance drones and receives regular incident reports from staff regarding the use of drones by the public.

Brett indicated that there were some general matters associated with wildlife – predominantly marine mammals.

There are several issues with the use of drones which will need to be investigated as part of this policy development, including impacts on wildlife, safety, privacy and nuisance concerns.

It was agreed that any regulation should look at implementation issues to ensure it doesn't create a significant burden for the Department or the public. Discussion occurred regarding the potential to use spatial apps to delineate areas for drone users, similar to the way marine park zonings are integrated into marine navigation/mapping/plotting technology.

Options to regulate use were not specifically discussed as it was considered premature at this stage of the policy development process.

Action

Item #	Action	Responsible	Status	Due Date
1.	Contact TMR regarding their policy development	Diana	Complete	
2.	Email QPWS regions (including marine permits area in northern region) asking for information, concerns and issues regarding the use of drones in their areas	Vanessa	To be completed	
3.	Email QPWS regions requesting the number of drones owned by QPWS and the Aviation Reference Numbers that are currently being used to fly them.	Vanessa	Information received regarding number of drones but still need the ARNs	
4.	Develop discussion paper and send to working group members for comment	Diana	To be completed	
5.	Disseminate the discussion paper to the QPWS regions asking for their comment	Vanessa	To be completed	
6.	Compile comments into one document	Diana	To be completed	
7.	Collate the list of drones currently owned by the Department and their	Vanessa/Diana	To be completed	

	relevant ARN's and who they are registered to.		
8.	Organise next meeting of working group	Diana	To be completed

Next meeting - TBA

Published on DES Disclosure Log
RTI Act 2009

Queensland Parks and Wildlife Service

Use of a very small remotely piloted aircraft (100g < 2kg) for management and compliance operations in Moreton Bay Marine Park

Purpose

The purpose of this SOP is to provide direction to personnel undertaking the operation of Remotely Piloted Aircraft (RPA) for management and compliance purposes by describing the actions to be taken by Queensland Parks and Wildlife Service (QPWS) personnel for the operation of the RPA.

Scope

This SOP has been developed to address the approval requirements and actions required for Moreton Bay Marine Park personnel to operate an RPA.

Personnel must ensure they comply with this SOP and any other applicable legislation, codes of practice, policies and standards. See related and reference documents

Aviation Reference Number

- Before beginning operation of the drone an Aviation Reference Number needs to be obtained from CASA
- At least five business days before flying the drone for the first time, CASA needs to be notified via the online notification form.
 - <https://forms.casa.gov.au/Public/wizard/1b396e81-f96a-433c-b377-05e5aa11cba2/?portal=1&id=%7B1b396e81-f96a-433c-b377-05e5aa11cba2%7D&Form=RPAS&prepared=true&logGuid=45537f43-657e-462f-8874-02b61cb6f8d9>
 - Notification needs to be renewed with CASA every 24 months

Responsibilities

Senior Ranger

- The Senior Ranger is responsible for authorising staff to act as pilots of the RPA. Before doing so each pilot must be assessed to ensure that they have full awareness of,
 - The CASA requirements,
 - The controls and functions of the RPA,
 - The controller
 - The tablet
 - This SOP
 - The risk assessments for the operation of the RPA
- They must demonstrate that they are able to carry out a planned flight of the RPA.

Ranger in Charge

- The Ranger in Charge has operational control of the RPA and shall make sure that it is operated with in the requirements of CASA and this SOP and that all maintenance and records are maintained

Pilot

- The pilot is responsible for the operation of the RPA in line with the requirements of CASA and this SOP for a given task. The responsibilities include,
 - Carrying out the GPS calibration

- Planning the flight.
- Briefing staff
- All safety precautions regarding the operation of the RPA
- Carrying out the required pre-flight checks.
- Completing the Flight Logbook.
- Piloting the RPA during the flight to achieve the objectives of the flight
- Down loading and saving any files recorded during the flight.
- Charging the batteries at the end of the day

Observer

- The observer responsibility is to keep the RPA in sight at all times and to advise the pilot of any hazards that may arise.

Training

Before any actual flying is carried out trainees must demonstrate that they are familiar with the RPA User Manual and the CASA requirements for the operation of very small remotely piloted aircraft.

Trainees must practice on the in-app simulator before actually flying the RPA

Pilots should be able to demonstrate good manual flight control of their RPA. Pilots should also be competent in all automated flight modes for RPA that can only be flown using automated piloting techniques. It is important for the pilot to be competent in both manual and automated flight for RPA that rely on manual control in the event of a loss or degradation of the autopilot.

- Training should be carried out using the actual RPA—or at least an RPA of the same category (i.e. multi-rotor, helicopter, aeroplane etc.) and weight class—that the pilot plans to operate post-training.
- CASA considers that five hours flight time is the minimum necessary to gain a basic level of competency for any category of RPA.
- The pilot should be taught to control their RPA within its design parameters and in varied operating conditions, including:
 - dealing appropriately with variable weather (e.g. strong winds)
 - abnormal flight situations
 - emergencies
 - system malfunctions.

Any person who will act as an observer—to assist the RPA pilot to avoid creating a hazard during flight of the RPA—should also be trained and thoroughly briefed on how they will alert the remote pilot to situations when hazards arise.

RPA Flight Log Book

Each RPA shall have a flight log book that shall be completed each time the RPA is used. A log form has been developed that provides fields for all items that are required to be recorded. **(Attachment 3)**

Procedure

- A RPA may only be operated,
 - By an Authorised Officer who has been trained in the safe operation of a RPA and is endorsed to pilot a RPA for QPWS purposes.

- And while there is a RPA observer who assists the remote pilot in the safe conduct of the flight.
- Prior to being endorsed as a RPA pilot, persons must be trained in the correct operating procedures and piloting of the RPA.
- As the RPA records video of the flight personal **must not** operate a RPA at a location where there is a reasonable expectation of privacy, to undertake private acts or places intended for private acts (e.g. toilet facility).
- CASA Standard Operating Procedures which **must** be followed at all times whilst operating a RPA:
 - You must only fly during the day and keep the RPA within visual line-of-sight.
 - You must not fly a RPA higher than 120 metres (400ft) above ground level.
 - You must keep a RPA at least 30 metres away from other people.
 - You must keep a RPA at least 5.5km away from controlled aerodromes.
 - The operation of a RPA within 3nm radius of an uncontrolled aerodrome or helicopter landing site is possible and lawful providing you do not operate on:
 - The approach and departure path or
 - Within the movement area or
 - Create a hazard to aircraft that may be using those areas.
 - You must not fly a RPA over any area where, in the event of a loss of control or failure, you create an unreasonable hazard to the safety of people and property on the ground.
 - You must not fly a RPA over or near an area affecting public safety or where emergency operations are underway (without prior approval).
 - This could include a fire and associated firefighting efforts, and search and rescue.
 - You can only operate one RPA at a time
- The RPA may be operated via the manual controls or through the auto take-off/landing function within the 'DJI GO' app.
- Before departing Manly Base or the boat ramp the GPS in the RPA **must be calibrated against a surveyed point**. This will require placing the RPA next to the survey point and turning on the RPA, the controller and tablet, and recording the GPS positions on the RPA Flight Logbook and taking a photo with the RPA camera that will be GPS tagged.
- Complete the pre-flight checks in the Flight Logbook
 - Check that you are not in a no fly zone
 - Check that the area is clear and safe. No persons other than crew within 30 meters.
 - Check that the weather is suitable, wind less than 20 knots, no rain or fog
 - Remove the camera support and check that the lens is clean
 - Check the RPA battery has sufficient charge for the planned flight
 - Check the controller has sufficient charge for the planned flight
 - Check the tablet battery has sufficient charge for the planned flight
 - Check that the SD card has been inserted in to the RPA
 - Attach propellers
 - Place the black propeller rings on the motors with black dots
 - Place the silver propeller rings on the motors without black dots
 - Follow the on-screen instructions to calibrate the compass if required.
 - Select flight mode P
 - Check that there are no warnings indicated
 - Carry out motor test
 - Carry out camera test
 - Ensure that SAFE TO FLY is indicated on the tablet
 - If operating from a vessel ensure that the safety barriers are in place
 - Check that the observer is ready
 - **If any of the checks or tests fail the flight must not proceed until the issue is corrected**

- Wherever possible, take-off and landing should be performed from land rather than a vessel so that the Return to Home (RTH) function can be used if contact is lost with the RPA
 - This may involve disembarking the vessel onto a beach where there is a safe area to perform take-off and retrieval of the drone.
 - If the RPA returns on the RTH function the vessel will most likely not be in the same location as when the RPA launched, therefore it may land in the water and be lost.
- Safety considerations when performing take-off and retrieval of the drone both on land and on board a vessel include:
 - Clearing a suitable area on the vessel or land and ensure it is a safe area for the deployment and retrieval of the drone.
 - Conduct a task briefing to inform all persons of the deployment/retrieval plan and ensure all crew maintain a safe distance from the landing/take-off zone. When operating from a vessel and because to the restricted area, ensure there is a barrier between the crew area and the RPA take off/landing area,
 - On SPOONBILL this will be from inside the wheelhouse. The RPA will operate from the main deck
 - On CARETTA this will be the curtains at the rear of the cabin. The RPA will operate from the rear deck
 - On BANKO this will be the console wind screen and the pop out spray wings. The RPA will operate from the forward deck.
 - On TEAL this will be a net that is to be placed at the back on the main deck. The RPA will operate from the tray above the engine
 - DO NOT start the motors of the RPA until the area is clear of people and hazards
- To detach the propellers once the flight is completed and the RPA has been turned off, press down onto the motor mount and rotate the propeller according to the marked direction to unlock the propeller.
 - DO NOT attempt to remove propellers until the RPA is shut down and propellers have stopped spinning completely.
- Once finished using the RPA Complete the 'RPA Flight Logbook to ensure the total RPA operating hours are monitored.

Emergency procedures

The RPA mission plan should detail the procedures to be followed in the event of an emergency, such as:

- engine/propeller failure
 - If the RPA suffers an engine/propeller failure it will become unstable and come down. Mark the location of the crashed RPA and recover. If the RPA came down in the water it will sink and may be unrecoverable
- loss of control link
 - If the link is lost the RTH function will activate and the RPA will return to the launch location and land and shutdown. All personnel must be warned that the uncontrolled RPA is returning and move to a safe location until the RPA has shut down. Transmission towers can cause interference with the radio controls for an RPA. The RPA should not be used within 1000 meters of a transmission tower as a precaution
- loss of control
 - If the RPA loses any control functions the RPA will return to the launch location and land and shutdown. All personnel must be warned that the uncontrolled RPA is returning and move to a safe location until the RPA has shut down
- failure of navigation equipment
 - If there is a failure of navigation equipment the pilot can take manual control and fly the RPA home. If this is not possible the RPA will slowly descend and land.
- Collision

- The primary collision avoidance system is the pilot and the observer working together to identify obstacles and take action to avoid them. The RPA is also fitted with an Obstacle Avoidance System that when detecting an obstacle will stop the RPA and then climb to an altitude of about 5 meters above the obstacle before proceeding.

Accident and incident reporting

To help CASA and the Australian Transport Safety Bureau (ATSB) to monitor the safety of RPA operations, the RPA operator should report incidents and accidents for analysis and evaluation.

- These include:
 - A failure of the RPA to respond to flight commands from the RPS
 - Failure of the flight control unit (i.e. inertial measurement unit, global positioning system, inertial navigation system etc.)
 - Failure of the lost link program
 - In-flight collision with another aircraft, structure or person
 - RPA structural failures
 - Near misses with other aircraft
 - Any damage caused by collisions/handling.

Such instances should be reported in accordance with ATSB requirements (see website at <http://www.atsb.gov.au/>).

Immediate notification of accidents and serious incidents

- Accidents and serious incidents must be notified immediately to the ATSB in accordance with section 18 of the *Transport Safety Investigation Act 2003*.
- Written notifications must be submitted within 72 hours of an accident, serious incident or incident, in accordance with section 19 and regulation 2.6 of the *Transport Safety Investigation Act 2003*. The written notification should contain as much information about the accident, serious incident or incident as is within the knowledge of the person at the time of submitting the notification.

Responsibilities

Senior Ranger

- The Senior Ranger is responsible for authorising staff to act as pilots of the RPA. Before doing so each pilot must be assessed to ensure that they have full awareness of,
 - The CASA requirements,
 - The controls and functions of the RPA,
 - The controller
 - The tablet
 - This SOP
- They must demonstrate that they are able to carry out a planned flight of the RPA

The RIC and SR are responsible to ensure that personnel under their supervision comply with this SOP, the NPSR procedural guide, associated legislation and documentation.

Related documents and reference documents

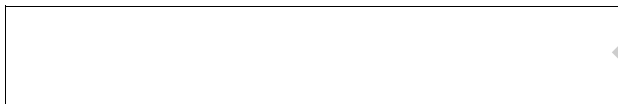
- Code of Conduct, <https://www.qld.gov.au/gov/code-conduct-queensland-public-service>
- Phantom 4 user Manual (Attachment 1)

- Casa web page for Commercial unmanned flight – RPS under 2 kg, <https://www.casa.gov.au/standard-page/commercial-unmanned-flight-remotely-piloted-aircraft-under-2kg>
- Office of the Information Commissioner Queensland- GUIDELINE Information Privacy Act 2009, https://www.oic.qld.gov.au/_data/assets/pdf_file/0010/28099/guideline-camera-surveillance-and-privacy.pdf
- Work Risk Assessment – operation of Drones for Marine Park Management purposes (Attachment 2)
- Method Statement operation of drone from vessels (Attachment 3)

Disclaimer

This list does not exclude the application of other codes, policies, guidelines or procedures which may become relevant to a particular situation or circumstances.

Approved by



Signature



Date

Damien Head
Regional Director
Great Barrier Reef and Marine Park Region
Queensland Parks and Wildlife

Enquiries:

Richard Orchard
Senior Ranger/Moreton Bay Marine Parks
Richard.Orchard@npsr.qld.gov.au
Phone; 07 3131 2890

Activity Description	Risk Description	Risk Event What can happen? How can it happen? When can it happen?	Current Risk Control/s	Number of staff required to manage safely	Likelihood	Consequence	Risk Level	Risk Score	Revised Risk Control/s Elimination, Substitution, Isolation, Redesign, Administrative Controls and Personal Protective Equipment (PPE).	Revised Likelihood	Revised Consequence	Revised Risk Level	Revised Risk Score	Responsible Person	Review Date
Operation of Remote Piloted Aircraft (RPA)	<ul style="list-style-type: none"> Use of RPA for compliance operations Use of RPA for management purposes Launch, manoeuvre and retrieve RPA on Shore Launch, manoeuvre and retrieve RPA from vessels 	<ul style="list-style-type: none"> Operator error Loss of power due to flat batteries on the RPA, the controller or the tablet Injury to personal during take-off and landing due to collision RPA engine failure resulting in the RPA 	<ul style="list-style-type: none"> No staff are to operate RPA unless they have completed RPA training as per the SOP Use of a very small remotely piloted aircraft (100g < 2kg) for management and compliance operations in Moreton Bay Marine Park. Only approved persons as per the SOP are to operate the RPA Pre-flight briefing must be carried out A system of pre-flight checks and log book has been developed as part of the SOP to ensure that the required checks are carried out and recorded Operation from Shore Pilot must follow the CASA standard operating procedures as in the SOP Operation from vessels Pilot must follow the CASA standard operating procedures as in the SOP with the exception that the requirement for a 30m safety zone cannot be applied so there must be a safety barrier between all persons and the RPA during take-off and landing area on the vessel as identified in the SOP. The RPA has a collision avoidance system that will keep it 5m clear of any object it detects. This system will need to be turned off when landing on vessels as it may cause problems with the landing The RPA should never be flown over a person or within 30m of a person. 	Requires 2 Staff – Operator and Observer	Unlikely	Minor	Low	5	<ul style="list-style-type: none"> This is a first risk assessment and there are no revised controls Report all incidents Continue to monitor 					SOP – Senior Ranger Approval to operate – Senior Ranger. Operational tasking – RIC Flight operations - Pilot	February 2018

		<ul style="list-style-type: none">Failure of navigation equipment	<ul style="list-style-type: none">possible the RPA will slowly descend and land.													

Queensland Parks and Wildlife Service

Senior Ranger – Operator Approval Checklist & Record for;

Use of a very small remotely piloted aircraft (100g < 2kg) for management and compliance operations in Central Region

Responsibilities

Senior Ranger is responsible for authorising staff to act as pilots of the Remotely Piloted Aircraft (RPA). Before doing so each pilot must be assessed to ensure that they have full awareness of

Outcome	Demonstrated
The CASA requirements,	
Operate only in line of sight	
Not fly within 30m of people, buildings or equipment	
Not fly over any populated area (beaches, backyards, busy parks or events)	
Not fly higher than 120m <u>above ground level (AGL)</u>	
Not fly within 5.5km of an airfield.	
Not fly for money	
The controller	
Turn on the controller	
Identify the battery indicator	
Identify the charge port	
Identify the left stick to control lift and turn	
Identify the right stick to control forward, backward and sideways pitch.	
Identify controller stick adjuster function	
Identify return to home button	
Identify tablet bracket	
Identify aerals and proper alignment	
Identify smart mode switch (confirm only approved mode is P mode)	
Identify video record button	
Identify gimbal tilt rocker wheel	
Identify camera shutter button	
Identify pause function button	
Identify	
Identify programmable C1 and C2 buttons.	
Identify USB and mini USB ports.	
Turn off the controller	
The tablet	
Start tablet	
Identify and start appropriate RPA controller application	

Outcome	Demonstrated
The controls and functions of the RPA,	
Connect tablet and controller.	
Connect controller and RPA	
Reset "home" location.	
More here	
This SOP	
Pilot has personal flight log book.	
Pilot has log book specific to the RPA being used.	
The risk assessments for the operation of the RPA	
They must demonstrate that they are able to carry out a planned flight of the RPA.	

Pilot

- The pilot is responsible for the operation of the RPA in line with the requirements of CASA and this SOP for a given task. The responsibilities include,
 - Carrying out the GPS calibration
 - Planning the flight.
 - Briefing staff
 - All safety precautions regarding the operation of the RPA
 - Carrying out the required pre-flight checks.
 - Completing the Flight Logbook.
 - Piloting the RPA during the flight to achieve the objectives of the flight
 - Down loading and saving any files recorded during the flight.
 - Charging the batteries at the end of the day

Observer

- The observer responsibility is to keep the RPA in sight at all times and to advise the pilot of any hazards that may arise.

Training

Before any actual flying is carried out trainees must demonstrate that they are familiar with the RPA User Manual and the CASA requirements for the operation of very small remotely piloted aircraft.

Trainees must practice on the in-app simulator before actually flying the RPA

Pilots should be able to demonstrate good manual flight control of their RPA. Pilots should also be competent in all automated flight modes for RPA that can only be flown using automated piloting techniques. It is important for the pilot to be competent in both manual and automated flight for RPA that rely on manual control in the event of a loss or degradation of the autopilot.

- Training should be carried out using the actual RPA—or at least an RPA of the same category (i.e. multi-rotor, helicopter, aeroplane etc.) and weight class—that the pilot plans to operate post-training.
- CASA considers that five hours flight time is the minimum necessary to gain a basic level of competency for any category of RPA.
- The pilot should be taught to control their RPA within its design parameters and in varied operating conditions, including:
 - dealing appropriately with variable weather (e.g. strong winds)
 - abnormal flight situations

- emergencies
- system malfunctions.

Any person who will act as an observer—to assist the RPA pilot to avoid creating a hazard during flight of the RPA—should also be trained and thoroughly briefed on how they will alert the remote pilot to situations when hazards arise.

RPA Flight Log Book

Each RPA shall have a flight log book that shall be completed each time the RPA is used. A log form has been developed that provides fields for all items that are required to be recorded. **(Attachment 3)**

Commented [MP1]: - Needs to be attached
- Where are Att 1 & 2 ?

Procedure

- A RPA may only be operated,
 - By an Authorised Officer who has been trained in the safe operation of a RPA and is endorsed to pilot a RPA for QPWS purposes.
 - And while there is a RPA observer who assists the remote pilot in the safe conduct of the flight.
- Prior to being endorsed as a RPA pilot, persons must be trained in the correct operating procedures and piloting of the RPA.
- As the RPA records video of the flight personal **must not** operate a RPA at a location where there is a reasonable expectation of privacy, to undertake private acts or places intended for private acts (e.g. toilet facility).
- CASA Standard Operating Procedures which **must** be followed at all times whilst operating a RPA:
 - You must only fly during the day and keep the RPA within visual line-of-sight.
 - You must not fly a RPA higher than 120 metres (400ft) above ground level.
 - You must keep a RPA at least 30 metres away from other people.
 - You must keep a RPA at least 5.5km away from controlled aerodromes.
 - The operation of a RPA within 3nm radius of an uncontrolled aerodrome or helicopter landing site is possible and lawful providing you do not operate on:
 - The approach and departure path or
 - Within the movement area or
 - Create a hazard to aircraft that may be using those areas.
 - You must not fly a RPA over any area where, in the event of a loss of control or failure, you create an unreasonable hazard to the safety of people and property on the ground.
 - You must not fly a RPA over or near an area affecting public safety or where emergency operations are underway (without prior approval).
 - This could include a fire and associated firefighting efforts, and search and rescue.
 - You can only operate one RPA at a time
- The RPA may be operated via the manual controls or through the auto take-off/landing function within the 'DJI GO' app.
- Before departing Manly Base or the boat ramp the GPS in the RPA **must be calibrated against a surveyed point**. This will require placing the RPA next to the survey point and turning on the RPA, the controller and tablet, and recording the GPS positions on the RPA Flight Logbook and taking a photo with the RPA camera that will be GPS tagged.
- Complete the pre-flight checks in the Flight Logbook
 - Check that you are not in a no fly zone
 - Check that the area is clear and safe. No persons other than crew within 30 meters.

Commented [MP2]: Update reference of Manly
Do we need this requirement to calibrate?

- Check that the weather is suitable, wind less than 20 knots, no rain or fog
- Remove the camera support and check that the lens is clean
- Check the RPA battery has sufficient charge for the planned flight
- Check the controller has sufficient charge for the planned flight
- Check the tablet battery has sufficient charge for the planned flight
- Check that the SD card has been inserted in to the RPA
- Attach propellers
 - Place the black propeller rings on the motors with black dots
 - Place the silver propeller rings on the motors without black dots
- Follow the on-screen instructions to calibrate the compass if required.
- Select flight mode P
- Check that there are no warnings indicated
- Carry out motor test
- Carry out camera test
- Ensure that SAFE TO FLY is indicated on the tablet
- If operating from a vessel ensure that the safety barriers are in place
- Check that the observer is ready
- **If any of the checks or tests fail the flight must not proceed until the issue is corrected**
- Wherever possible, take-off and landing should be performed from land rather than a vessel so that the Return to Home (RTH) function can be used if contact is lost with the RPA
 - This may involve disembarking the vessel onto a beach where there is a safe area to perform take-off and retrieval of the drone.
 - If the RPA returns on the RTH function the vessel will most likely not be in the same location as when the RPA launched, therefore it may land in the water and be lost.
- Safety considerations when performing take-off and retrieval of the drone both on land and on board a vessel include:
 - Clearing a suitable area on the vessel or land and ensure it is a safe area for the deployment and retrieval of the drone.
 - Conduct a task briefing to inform all persons of the deployment/retrieval plan and ensure all crew maintain a safe distance from the landing/take-off zone. When operating from a vessel and because of the restricted area, ensure there is a barrier between the crew area and the RPA take off/landing area,
 - On SPOONBILL this will be from inside the wheelhouse. The RPA will operate from the main deck
 - On CARETTA this will be the curtains at the rear of the cabin. The RPA will operate from the rear deck
 - On BANKO this will be the console wind screen and the pop out spray wings. The RPA will operate from the forward deck.
 - On TEAL this will be a net that is to be placed at the back on the main deck. The RPA will operate from the tray above the engine
 - DO NOT start the motors of the RPA until the area is clear of people and hazards
- To detach the propellers once the flight is completed and the RPA has been turned off, press down onto the motor mount and rotate the propeller according to the marked direction to unlock the propeller.
 - DO NOT attempt to remove propellers until the RPA is shut down and propellers have stopped spinning completely.
- Once finished using the RPA Complete the 'RPA Flight Logbook to ensure the total RPA operating hours are monitored.

Emergency procedures

Commented [MP3]: Delete

The RPA mission plan should detail the procedures to be followed in the event of an emergency, such as:

- engine/propeller failure
 - If the RPA suffers an engine/propeller failure it will become unstable and come down. Mark the location of the crashed RPA and recover. If the RPA came down in the water it will sink and may be unrecoverable
- loss of control link
 - If the link is lost the return to home (RTH) function will activate and the RPA will return to the launch location and land and shutdown. All personnel must be warned that the uncontrolled RPA is returning and move to a safe location until the RPA has shut down. Transmission towers can cause interference with the radio controls for an RPA. The RPA should not be used within 1000 meters of a transmission tower as a precaution
- loss of control
 - If the RPA loses any control functions the RPA will return to the launch location and land and shutdown. All personnel must be warned that the uncontrolled RPA is returning and move to a safe location until the RPA has shut down
- failure of navigation equipment
 - If there is a failure of navigation equipment the pilot can take manual control and fly the RPA home. If this is not possible the RPA will slowly descend and land.
- Collision
 - The primary collision avoidance system is the pilot and the observer working together to identify obstacles and take action to avoid them. The RPA is also fitted with an Obstacle Avoidance System that when detecting an obstacle will stop the RPA and then climb to an altitude of about 5 meters above the obstacle before proceeding.

Accident and incident reporting

To help CASA and the Australian Transport Safety Bureau (ATSB) to monitor the safety of RPA operations, the RPA operator should report incidents and accidents for analysis and evaluation.

- These include:
 - A failure of the RPA to respond to flight commands from the RPS
 - Failure of the flight control unit (i.e. inertial measurement unit, global positioning system, inertial navigation system etc.)
 - Failure of the lost link program
 - In-flight collision with another aircraft, structure or person
 - RPA structural failures
 - Near misses with other aircraft
 - Any damage caused by collisions/handling.

Such instances should be reported in accordance with ATSB requirements (see website at <http://www.atsb.gov.au/>).

Immediate notification of accidents and serious incidents

- Accidents and serious incidents must be notified immediately to the ATSB in accordance with section 18 of the *Transport Safety Investigation Act 2003*.
- Written notifications must be submitted within 72 hours of an accident, serious incident or incident, in accordance with section 19 and regulation 2.6 of the *Transport Safety Investigation Act 2003*. The written notification should contain as much information about the accident, serious incident or incident as is within the knowledge of the person at the time of submitting the notification.

Responsibilities

Senior Ranger

- The Senior Ranger is responsible for authorising staff to act as pilots of the RPA. Before doing so each pilot must be assessed to ensure that they have full awareness of,
 - The CASA requirements,
 - The controls and functions of the RPA,
 - The controller
 - The tablet
 - This SOP
- They must demonstrate that they are able to carry out a planned flight of the RPA

The RIC and SR are responsible to ensure that personnel under their supervision comply with this SOP, the NPSR procedural guide, associated legislation and documentation.

Related documents and reference documents

- Code of Conduct, <https://www.qld.gov.au/gov/code-conduct-queensland-public-service>
- Phantom 4 user Manual (Attachment 1)
- Casa web page for Commercial unmanned flight – RPS under 2 kg, <https://www.casa.gov.au/standard-page/commercial-unmanned-flight-remotely-piloted-aircraft-under-2kg>
- Office of the Information Commissioner Queensland- GUIDELINE Information Privacy Act 2009, https://www.oic.qld.gov.au/_data/assets/pdf_file/0010/28099/guideline-camera-surveillance-and-privacy.pdf
- Work Risk Assessment – operation of Drones for Marine Park Management purposes (Attachment 2)
- Method Statement operation of drone from vessels (Attachment 3)

Disclaimer

This list does not exclude the application of other codes, policies, guidelines or procedures which may become relevant to a particular situation or circumstances.

Approved by

Signature

Date

Damien Head
Regional Director
Great Barrier Reef and Marine Park Region
Queensland Parks and Wildlife

Enquiries:

Richard Orchard
Senior Ranger/Moreton Bay Marine Parks
Richard.Orchard@npsr.qld.gov.au
Phone: 07 3131 2890

Release

RPA FLIGHT LOGBOOK

Phantom 4 Serial number 07DJD9LOC11847

DATE	PILOT	SIGNATURE	OBSERVER
GPS CALIBRATION. Calibration is to be carried out at a surveyed point either at Manly base or a boat ramp before departure.			
Location		Time	
		Surveyed position	
			RPA GPS position
FLIGHT 1		FLIGHT 2	
Outside no fly zones		Outside no fly zones	
Area clear and safe		Area clear and safe	
Weather suitable (<20kn, no rain)		Weather suitable (<20kn, no rain)	
Camera support removed & lens cleaned		Camera support removed & lens cleaned	
RPA Battery	%	RPA Battery	%
Controller battery	%	Controller battery	%
Tablet battery	%	Tablet battery	%
SIM card		SIM card	
Propellers attached correctly		Propellers attached correctly	
Compass calibrated (only if directed)		Compass calibrated (only if directed)	
Flight mode selected (P mode)		Flight mode selected (P mode)	
Nil warnings		Nil warnings	
Motor test		Motor test	
Camera test		Camera test	
Safe to fly indicated		Safe to fly indicated	
Safety Barriers up (if on a vessel)		Barriers up (if on a vessel)	
Observer Ready		Observer Ready	
Take off time		Take off time	
Landing time		Landing time	
Total flight hours for the RPA		Total flight hours for the RPA	

Comments	Comments	Comments
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RPA FLIGHT LOGBOOK

Phantom 4 Serial number 07DJD9LOC11847

FLIGHT 4		FLIGHT 5		FLIGHT 6	
Outside no fly zones		Outside no fly zones		Outside no fly zones	
Area clear and safe		Area clear and safe		Area clear and safe	
Weather suitable (<20kn, no rain)		Weather suitable (<20kn, no rain)		Weather suitable (<20kn, no rain)	
Camera support removed & lens cleaned		Camera support removed & lens cleaned		Camera support removed & lens cleaned	
RPA Battery	%	RPA Battery	%	RPA Battery	%
Controller battery	%	Controller battery	%	Controller battery	%
Tablet battery	%	Tablet battery	%	Tablet battery	%
SIM card		SIM card		SIM card	
Propellers attached correctly		Propellers attached correctly		Propellers attached correctly	
Compass calibrated (only if directed)		Compass calibrated (only if directed)		Compass calibrated (only if directed)	
Flight mode selected (P mode)		Flight mode selected (P mode)		Flight mode selected (P mode)	
Return to home set		Return to home set		Return to home set	
Nil warnings		Nil warnings		Nil warnings	
Motor test		Motor test		Motor test	
Camera test		Camera test		Camera test	
Safe to fly indicated		Safe to fly indicated		Safe to fly indicated	
Barriers up (if on a vessel)		Barriers up (if on a vessel)		Barriers up (if on a vessel)	
Observer Ready		Observer Ready		Observer Ready	
Take off time		Take off time		Take off time	
Landing time		Landing time		Landing time	
Total flight hours for the RPA		Total flight hours for the RPA		Total flight hours for the RPA	

Comments	Comments	Comments
----------	----------	----------

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Drone Use at Raine Island National Park (Scientific) SOP

This standard operating procedure (SOP) covers the operation of all drones or UAVs at Raine Island and Moulter Cay. This standard operating procedure covers unmanned remotely piloted or autonomous multi-copters with a mass of up to 5kg.

In 2015 and 2016 QPWS in collaboration with Auckland University and Technology and Biopixel did several trial flights purposed to investigate the impact of drone flight on seabirds. This work used a UAS Vision HexH₂O (+/- 4kg, 6 rotors) and DJI Inspire 1.0 (+/- 3kg, 4 rotors) flying several transects over colonies of seabirds; predominately brown and masked boobies, lesser frigatebirds and common noddies during two separate field trips at different altitudes (heights above ground). We have also used a study at Ashmore Reef WA and advice from a researcher and seabird expert from this study, Dr Rohan Clarke to inform this SOP.

Flying Responsibly

The intent of this SOP is to provide guidelines for drone pilots to use drones around Raine Island and potentially around other seabird roosting and nesting sites with minimal disturbance to seabirds. While disturbance is the most visible negative consequence of the biggest concern is that while disturbed, nest predators such as silver gulls and exposure may cause mortality. The recommendations in this SOP are drawn from limited work on a few species at a single site, drawing on related work in WA. As such it is the pilot's responsibility to ensure that their operations do not cause disturbance even when operating within these guidelines. If disturbance is observed pilots should cease operating as they have been and look to mitigate further impacts by taking off or landing further from seabirds, flying higher and taking any other measure they think may reduce disturbance.

Reporting

Observations of disturbance or lacks thereof and any evidence of these observations will be most useful in understanding how broadly this SOP may apply and whether adjustments or recommendations should be considered.

Understanding Conditions

This SOP basically seeks to maintain a separation between drones and nesting seabirds to minimise disturbance. Unless the operator is aware of all nesting seabird locations at the site the operator must assume that the nature local site is a seabird nesting locations and operate the drone as recommended. More nuanced spatial operations may be possible if the operator is able to map the locations of seabird breeding colonies to ensure operations maintain the separations in this SOP. Where this is planned or intended the operator must provide appropriately documented evidence in the form of maps/aerial images and an independent endorsement from QPWS ranger staff familiar with seabird monitoring at the site.

Maintain 60 m separation between drone and nesting birds

While this SOP is pending a final analyses of the data gathered during these trials visual inspections strongly suggests that there is very little if any disturbance by either drone at altitudes of 60 metres above ground level or greater. While there is some evidence that common noddies may react to drones at any altitude below 120m (the highest tested) the speed at which this species returns to the nest indicates that infrequent disturbance may have no or a negligible impact upon the breeding success of this species. These data are similar to observations made at Ashmore Reef in Western Australia.

As such it is an expectation that there will be no drone operations occurring within 60m of nesting seabirds. This means that drones should take off and land 60m away from nesting seabirds wherever possible. Where this is not possible the drone should take off and land as far away as possible and move away from and upwards at approximately 45 degrees to maximise separation before gaining altitude. Clearly common sense should prevail and in the unlikely event that there a take-off/landing point that is 60m from nesting birds on the interior of an island that requires that the pilot must walk through a breeding colony to set-up and retrieve the drone that an alternative as far away from the edge as possible should be used.

Slow and Steady

Irregular and changing flight patterns may create additional disturbance through variations in sound and may also increase the slight risks of mid-air collision with birds that may be observing the drone from close proximity. Flights should be conducted below 35 km/h or approximately 10m/s and flown autonomously wherever possible. Here we define autonomous flight as flight guided by on software and via a series of waypoints pre-programmed before take-off where the pilot is only in control in the event of an emergency and for landings and take-offs.

Avoid Peak Hours

Drones should not be flown between civil dusk and 1 hour after civil dusk and one before civil dawn and civil dawn. Civil dawn and dusk are the starts of civic twilight and are the times when the geometric centre of the sun is six degrees below the horizon. These times can be calculated from internet calculators or Garmin GPS' e.g. <https://www.timeanddate.com/sun/@2152176> . During these period between dark and first/last light large numbers of seabirds often return to roost and may be at elevated risk of collision due to low light conditions.

Drone operations should also be delayed if large numbers of seabirds are observed approaching the site or if the pilot or observers have confidence that large numbers are about to leave. This exclusion does not extend to seabirds orbiting the site or circling in thermals which may remain in these formations for extended periods.

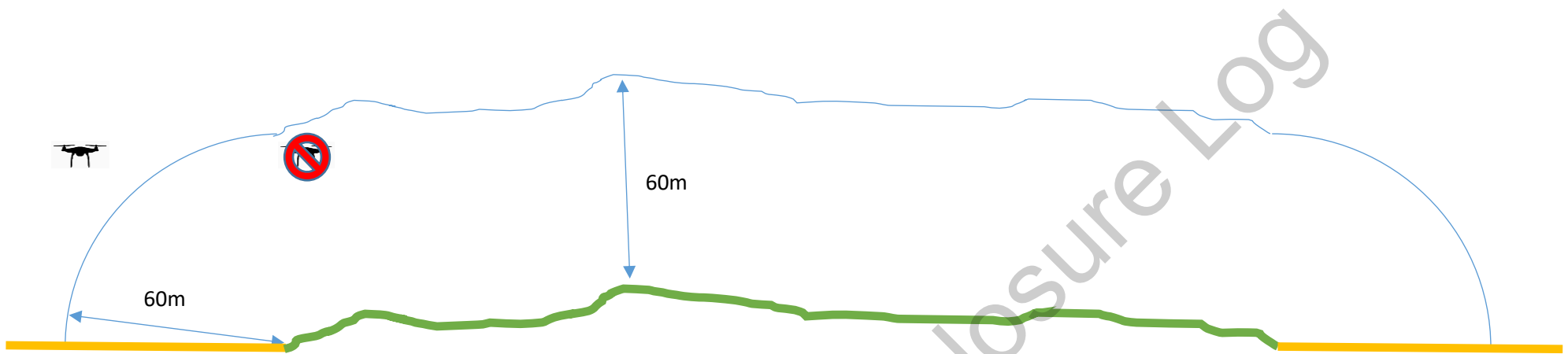
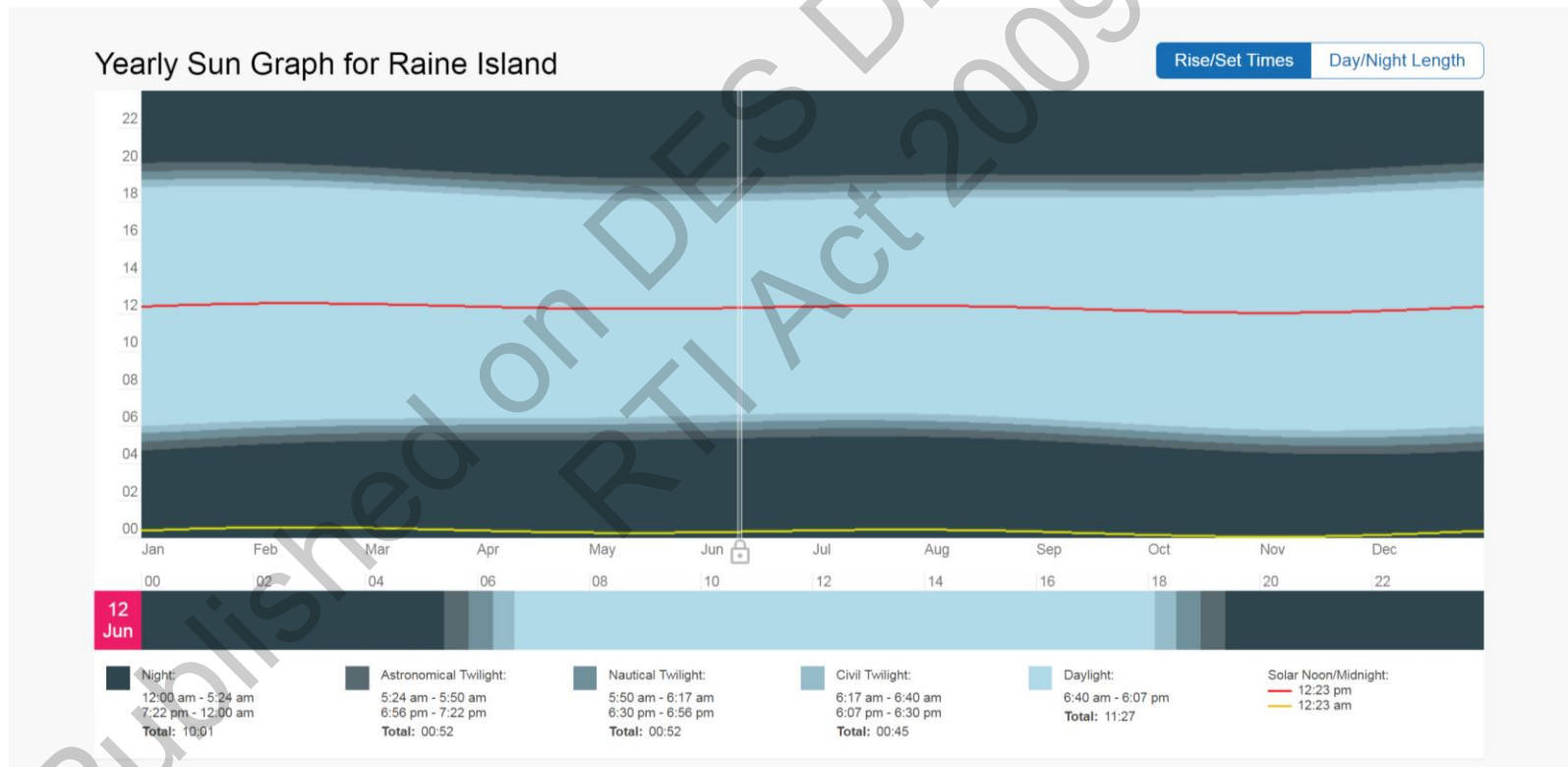
The Smaller the Better

Wherever and whenever possible the drone used should be the quietest and smallest unit suitable for the task at hand. While we have undertaken only limited examination of the role of unit size on disturbance there is some equivocal evidence that larger units may prompt greater responses from nesting seabirds. This SOP extends only to drones up to 5kg in mass.

Out of Scope Operations

Any out of scope operations planned must be endorsed by the Project Manager for the Raine Island Recovery Project and signed by the Raine Island Recovery Project Science Advisory Group. In order that these requests can be processed rapidly and evaluated appropriately the reasons for out of scope operations must be detailed as well as any mitigations planned in a short (maximum of two pages + mapping/imagery) proposal.

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Agency Name or Business Unit	QPWS internal Contact Officer	Aviation Reference Number (ARN)	ARN held by
Northern Region - Assets & Safety	Colin Dollery	812715	Colin Dollery
Northern Region - Ingham Mgmt Unit	Colin Dollery	812715	Colin Dollery
Central Region (Fitzroy Management Unit)	Marty McLaughlin		
Central Region (Fitzroy Management Unit)	Marty McLaughlin		
19-211 Technical Services	Matt Nash Arnold	1035506 TBA	Page 39 of 112 Marcus Toyne James Wilson

Date : 15/05/2019 11:03:47 AM
From : "BAKER Andy"
To : "WEIR Adam"
Cc : "JESBERG Tyson" , "PARSONS Mark"
Subject : FW: Invoice
Attachment : Andy Baker 0519.pdf;image001.jpg;image002.jpg;image003.gif;
Hi Adam (Tyson, this is the drone we spoke about),

Can you please organise payment of this invoice by DIV?
C.R. Kennedy is set up as a vendor in our system.
Please cost against the CCI Code 1003388.

Let me know if there's any further information required.

Kind Regards,

Andy

From: [redacted] (6) Personal information <[redacted]@crkennedy.com.au>
Sent: Wednesday, 15 May 2019 9:57 AM
To: BAKER Andy
Cc: David Schmidt
Subject: Invoice

Hi Andy, please find attached invoice. Payment is required before collection of the order. We should receive stock by mid next week.

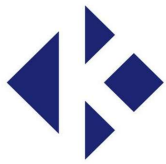
Kind regards,

[redacted] (6) Personal information
Admin/Reception
Survey



Unit 1, 131 Scott Street, Cairns QLD 4870
T: +61 7 4031 5399 | D: [redacted] (6) Personal information
F: +61 7 4031 5404 M: +61 7 4031 5404
E: EmailAddress@crkennedy.com.au | W: www.crkennedy.com.au/survey





C.R. Kennedy & COMPANY PTY. LTD.

TAX INVOICE

4460509

Tax Invoice Date: 15-May-2019

Page: 1 of 1

ABN: 50 008 458 884

ACN: 008 458 884

BILL TO:Andy Baker
DES**DELIVER TO:**Account
100300

Order Ref

Terr
472Whse
46Rep
c06

Our Order No

Terms

ITEM CODE**ITEM DESCRIPTION****QTY****UNIT PRICE****LINE TOTAL**DJIMAVIC2ENTDU DJI Mavic 2 Enterprise Dual (RGB + Thermal Cameras)
AL

1

DJIMAVIC2ENTPT2 DJI Mavic 2 Enterprise PT2 Battery

2

*Items will not be released until FULL PAYMENT has been received

EX TAX \$4,037.25**GST** \$403.72**TOTAL INC GST** \$4,440.97For full terms and conditions
please visit<http://survey.crkennedy.com.au>**PAYMENTS:****EFT:** Westpac

C.R. Kennedy & Company Pty Ltd

BSB: 033083 **A/C NO.** 291288**OR REMIT TO:**

P.O. Box 82

Port Melbourne

Victoria 3207

MERCHANDISE IS NOT RETURNABLE
Claims will not be recognised unless made
within 7 days of delivery**OFFICE LOCATIONS:**

		Phone Number	Fax Number
Melbourne	300 Lorimer St, Port Melbourne, Victoria 3207	(03) 9823 1555	(03) 9823 1592
Sydney	Level 2, 15 Bourke Road, Mascot, NSW 2020	(02) 9552 8300	(02) 9552 8399
Brisbane	80 Kingsford Smith Dr, Albion, QLD 4010	(07) 3862 6222	(07) 3862 6224
Adelaide	261 Sturt St, Adelaide, SA 5000	(08) 8410 0533	(08) 8410 1370
Perth	17-19 Oxford Close, West Leederville, WA 6007	(08) 9489 8550	(08) 9381 7344
Cairns	Unit 1, 131 Scott Street, Cairns QLD 4870	(07) 4031 5399	(07) 4031 5404

ABN 92 122 703 806

Invoice Date: 12-SEP-19
Invoice No: 1187119

Sold To:
QUEENSLAND PARKS & WILDLIFE
DEPT. OF ENVIRONMENT & SCIENCE
CNR SHUTE HARBOUR & MANDALAY
ROAD, JUBILEE POCKET
PO BOX 5332,
AIRLIE BEACH 4802
Phone: 0749625217

Deliver To:
QUEENSLAND PARKS & WILDLIFE
DEPT. OF ENVIRONMENT & SCIENCE
CNR SHUTE HARBOUR & MANDALAY
ROAD, JUBILEE POCKET
PO BOX 5332,
AIRLIE BEACH 4802

Total:

2,904.00

Account	Order Ref	Terr	Whse	Rep	Our Order No
1702693		SYDN	SYDN	100	1187119

Item Code	Item Description	Ordered	Shipped	UOM	Item Price	Line Total
127658	DJI Phantom 4 Pro / Obsidian Quadcopter	1.00	1.00	EACH		
Serial# : 189CEAUBA20272						
125045	DJI Phantom 4 Pro Battery PT64 5870mAh High Capacity	2.00	2.00	EACH		
	Compatible with all Phantom 4					
123440	DJI Phantom 4 Battery Charging Hub	1.00	1.00	EACH		
125046	DJI Phantom 4 Pro Prop Guards Set of 4	2.00	2.00	EACH		

Delivery Instructions:

Total Ex GST	2,640.00
GST	264.00
Invoice Total	2,904.00
Paid	0.00
Order Balance	0.00
Payment Type	

MACINTYRE Diane

From: FINLAY Kim
Sent: Monday, 14 October 2019 8:27 AM
To: MACINTYRE Diane
Subject: Drone purchase approval & invoice
Attachments: TAX INVOICE - 1187119.pdf

Hi Diane,

See below purchase approval from Anthony and attached invoice.

Thanks



Kim Finlay
A/Ranger in Charge
Airlie Beach/Whitsundays | Central Region
Queensland Parks & Wildlife Service & Partnerships
Department of Environment and Science

P: 07 4962 5217 Ext: 35217
Cnr Shute Harbour & Mandalay Rds, Jubilee Pocket
PO BOX 5332, Airlie Beach QLD 4802
www.des.qld.gov.au

From: PERRY Ross <Ross.Perry@des.qld.gov.au>
Sent: Friday, 23 August 2019 11:54 AM
To: MOSS Steve; FINLAY Kim; RICHARDSON Kyron
Subject: FW: Discretionary P&E submissions

From: CONTARINO Anthony <Anthony.Contarino@des.qld.gov.au>
Sent: Friday, 23 August 2019 9:48 AM
To: SCHLUTER Lynn
Cc: PERRY Ross
Subject: RE: Discretionary P&E submissions

Drone approved. Use 1002117 for purchase.

Not convinced on the Chainsaw and not approved at this time. The drone is to be made available across the Lower Burdekin MU. Kim Finlay is the only person trained (from what I understand) to use the drone and is the only person approved to use it at this time. Leigh Benson should also receive training.

Anthony



Anthony Contarino
Principal Ranger, Central West
Central Region | Queensland Parks and Wildlife Service
Department of Environment and Science

P 07 47967784

Msh4p4(6) Personal informatio

Level 10, 445 Flinders Street, Townsville Qld 4810
PO Box 5597, Townsville Qld 4810

From: SCHLUTER Lynn <Lynn.Schluter@des.qld.gov.au>

Sent: Tuesday, 20 August 2019 2:07 PM

To: CONTARINO Anthony

Subject: Discretionary P&E submissions

Hi Anthony

For your consideration – two discretionary P & E submissions from the Airlie Beach base.

Regards
Lynn



Lynn Schluter
Senior Ranger - Lower Burdekin
Central Region | Queensland Parks and Wildlife Service & Partnerships
Department of Environment & Science

P 07 4796 7708

Level 10, 445 Flinders Street, Townsville
PO Box 5597, Townsville Qld 4810
www.npsr.qld.gov.au

MACINTYRE Diane

From: BECKMAN Alan
Sent: Friday, 11 October 2019 4:17 PM
To: Corro QPWS Northern CR; LANCASTER Stacey; MACINTYRE Diane; Central Tech Support Admin
Cc: BROOK Scott; STAUNTON Jo
Subject: RE: Due 18 Oct 2019 - ##Additional Actions required## FW: Due 18 Oct 2019 - Management of drones

Hi Karen,

There are 7 Drones within Central Region, have created the Asset numbers in Loc8 and entered all available information in to Loc8 (see below).

Location	Asset - ID	Name	Make	Model	Serial No.	Attachments
Clermont	AST-0059937	Drone - DJI Platinum Mavic Pro	DJI Mavic Pro	Mavic Pro (M1P)	08QCF9KP1246DK	Standard camera
Mackay	AST-0059939	Drone - DJI Mavic Pro	DJI Mavic Pro	Mavic Pro (M1P)	08QUE4F001054D	4k,12.71 megapix
Blackdown	AST-0060415	Drone - DJI Mavic Air	Mavic Air	Mavic Air (M1P)	TBC	Standard Camera
Conway NP	AST-0060417	Drone - DJI Phantom 4	DJI	Phantom 4 Pro Obsidian	189CEAUBA20272	Stock Gimbal / ca
Parkhurst	AST-0060418	Drone - DJI Phantom 4 - Quad-copter	DJI	Phantom 4 WM33IS	2018CMIT ID. 2018AP1090	Standard Camera
Byfield	AST-0060419	Drone - DJI Phantom 4 - Quad-copter	DJI - Phantom 4	Phantom 4 (WM330A)	"07DDD8S OB10242 - SSE- GL30001510 IC-11805A	4K,12.4 megapixe
Parkhurst	AST-0060420	Drone - DJI Quad-copter	DJI Spark (MM1A)	Spark (MM1A)	OASDE7Q1C1000D1	2-axis gimbal, 12 i

Hope the above is what you are after.

Regards
Alan

From: Corro QPWS Northern CR <QPWSnorthernCR.Corro@des.qld.gov.au>
Sent: Thursday, 10 October 2019 3:34 PM
To: BECKMAN Alan; LANCASTER Stacey; MACINTYRE Diane; Central Tech Support Admin
Cc: BROOK Scott; STAUNTON Jo; Corro QPWS Northern CR
Subject: Due 18 Oct 2019 - ##Additional Actions required## FW: Due 18 Oct 2019 - Management of drones

Hi Alan

As discussed we are reporting regularly on Drone (Quarterly) however it was pointed out that we haven't completed the asset number column. Please find below a list of the Drone that Scott has flagged for our region.

-Could you please provide the IST asset number that you have already in the system for them?

-Admin Support team – If you have any drone that hasn't been registered yet, could you please register the shell in SAP (or check with your area) so Alan can create the IST number?

Pease let me know when this is done as I will need to submit our Central Region response for Scott review and report on it on SharePoint soon.

Admin Support team - Can I please have your Reponses by COB Friday 18 October 2019.

If you need extra time to do this task, please contact me directly.

Thanks everyone.

Karen Curtis
Corro Central Region Inbox
Central Region
Queensland Parks and Wildlife Service & Partnerships
Department of Environment and Science

P 07 4999 8531
Level 5, 44 Nelson Street, Mackay QLD 4740
Po Box 623, Mackay Qld 4740

Division	Unit	Responsible Officer	Description of Drone	Manufacturer	Make	Model	Serial No.	Barcode No.	Asset No.	Attachments / Peripherals / Extras	Weight	Payload Capacity	"Payload Sensors (typ and cost)"
QPWS and Partnerships	Central Region (Airlie Beach	Kim Finlay	Quad-copter	DJI	DJI	Phantom 4 Pro Obsidian	189CEAUBA20272		N/A	Stock Gimbal/Camera	1388g	Nil	Stock Gimbal/Carr

Emavit Pty Ltd
A.C.N. 618 636 534 / A.B.N. 93 441 993 164
as trustee of the
Emavit Pty Ltd No 2 Trust
trading as
Harvey Norman AVIT Superstore Emerald
21 Ballard Street
Emerald QLD 4720
Ph: 07 4986 8100 Fax: 07 4986 8199

Assistant: 14 AWilliamson Date: 17/12/18
Operator: 39 AWilliamson Time: 09:44:00
Customer: 49831211 Location: 260
Sales Type: CASH SALE Transaction: 792002

**TAX INVOICE
INVOICE 350842**

QUEENSLAND PARKS AND WILDLIFE
PO BOX 468
CLERMONT
QLD 4721

DJI MAVIC PRO PLATINUM FLY MORE COMBO

Quantity: 1
Dept.Code: 062
Product Code: 3958066
Batch Code: 008117348
Manufacturer Warranty of 12 Months
See Manufacturers documentation for
Warranty Details.
Including 36 Months Product Care Replace
Product Care Expiry: 16/12/2022
Product Care Number: RW-0126000098035
3958066 Inc. Product Care

Item Total: \$2,647.00

SANDISK EXTREME 64GB MICRO SD CARD

Quantity: 1
Price: \$58.00
Dept.Code: 062
Product Code: 3659877
Batch Code: 008118142

Item Total: \$58.00

Pickup/Delivery Address
QUEENSLAND PARKS AND WILDLIFE
PO BOX 468
CLERMONT
QLD 4721

Total	\$2,705.00
G.S.T. Content	\$245.91
INV PENDING	\$0.00
MONEYS DUE NOW	\$2,705.00
E.F.T.Pos	\$2,705.00
555005xxxxxx8957/-	
BALANCE OWING	\$0.00

ANZ EFTPOS

ANZ CUSTOMER COPY

HARVEY NORMAN AV/IT

21 BALLARD STREET
EMERALD QLD 4720

TERMINAL ID 00444023106
MASTERCARD (I) CR
8957

PUR AUD \$2705.00
CBA Credit File G
AID A0000000041010
TVR 0000048000
APSN 01 000000 175 2227

TAX INVOICE

P: 07 4921 1479

F: 07 4927 5641

E: rockhampton@camerahouse.com.au

Sold To:

Scott Brook

Dept. National Parks, Sport

Racing

61 Yeppoon Rd

PARKHURST 4702

Deliver To:

Scott Brook

Dept. National Parks, Sport

Racing

61 Yeppoon Rd

PARKHURST 4702

Invoice No	412994
Invoice Date	25-AUG-18
Our Order No	412994
Order Date	25-AUG-18
Customer No	0457551322
Customer Ref/PO	
Staff Member	Dan

Stock Code	Item Description	Shipped	Backordered	Item Price	Line Total
CP.PT.00000126	DJI Mavic Air Onyx Black Drone	1		1,299.99	1,299.99
Serial# :	OK1DFT2BD4225 OK1DFT2BD4225 MAVIC FREE BATTERY				
DJIMAVICAIRBATT	DJI Mavic Air Battery	1		0.00	0.00

Total Ex GST	\$1,181.81
GST	\$118.18
Invoice Total	\$1,299.99
Previous Payments	\$0.00
Paid Today	\$1,299.99
Balance Due	\$0.00

TAX INVOICE

Sold To:

Scott Brook
Dept. National Parks, Sport
Racing
61 Yeppoon Rd
PARKHURST 4702

Deliver To:

Scott Brook
Dept. National Parks, Sport
Racing
61 Yeppoon Rd
PARKHURST 4702

ABN 13 604 215 652
Shop 224/225
Stockland Rockhampton
176-331 Yaamba Road
NTH ROCKHAMPTON QLD 4701

P: 07 4921 1479

F: 07 4927 5641

E: rockhampton@camerahouse.com.au

Invoice No	416889
Invoice Date	05-DEC-18
Our Order No	416889
Order Date	05-DEC-18
Customer No	0457551322
Customer Ref/PO	
Staff Member	Dale

Stock Code	Item Description	Shipped	Backordered	Item Price	Line Total
CP.PT.00000241.01	DJI Phantom 4 Pro V2.0 Quadcopter	1		2,399.00	2,399.00

Total Ex GST	\$2,180.91
GST	\$218.09
Invoice Total	\$2,399.00
Previous Payments	\$0.00
Paid Today	\$2,399.00
Balance Due	\$0.00



Date : 12/07/2019 11:19:40 AM
From : "AUGUSTEYN John"
To : "RICH Maree"
Subject : RE: AD drone trial data
Attachment : Drone BAS June19 day1.xlsx;Drone BAS June19 day2.xlsx;image001.png;image002.png;
Hi

That wasn't very easy. Decided to categorise whether they looked 'in use' rather than the 6 activity types.

Checked with Sam and he doesn't think it would be possible to directly enter the activity data into the user field.

Cheers

JA

From: RICH Maree <Maree.Rich@des.qld.gov.au>
Sent: Thursday, 11 July 2019 12:17 PM
To: AUGUSTEYN John
Subject: AD drone trial data

John

I have finished entering the BAS datasheets. I am currently lining up the photo metadata with the BAS data and then I will do an activity assessment of the drone pics.

Please go thru the drone trial photos and see what activity level you think they are? And then we can compare our assessments?

I have exported the GPS altitude information in the csv files too. Note some photos are duplicates of the same structure just taken at different heights.

There looks like there is also a 'user comment' field in the metadata. Next time it would be good if the activity comment was placed in there, so it's a bit easier to match them up. Or even do away with the paper datasheets... if we were brave enough. The start and end points could just be photographed with the status/location in the comment too.

thx



Maree Rich
Conservation Officer - Pest Management
Central Region | Technical Support
Queensland Parks and Wildlife Service
Department of Environment and Science
.....
P 07 4536 8395
Landsborough Highway, Longreach
PO Box 202, Longreach, 4730

Part time – Monday, Tuesday, Wednesday, Thursday

! "Filename"	JA acitivity assessment	Date	Time	Date and ti	User comrr	GPS latitud
DJI_0001.JPG		#####	10:39:02	2019:06:26	10:39:02	-24.1172
DJI_0002.JPG		#####	12:28:11	2019:06:27	12:28:11	-24.1164
DJI_0003.JPG		#####	12:30:03	2019:06:27	12:30:03	-24.117
DJI_0004.JPG		#####	12:36:57	2019:06:27	12:36:57	-24.1271
DJI_0005.JPG	In use	#####	12:37:32	2019:06:27	12:37:32	-24.1273
DJI_0006.JPG	not	#####	12:44:20	2019:06:27	12:44:20	-24.1315
DJI_0007.JPG		#####	12:44:24	2019:06:27	12:44:24	-24.1315
DJI_0008.JPG	not	#####	12:49:54	2019:06:27	12:49:54	-24.1336
DJI_0009.JPG		#####	12:50:19	2019:06:27	12:50:19	-24.1337
DJI_0010.JPG		#####	12:52:47	2019:06:27	12:52:47	-24.1363
DJI_0011.JPG		#####	12:52:52	2019:06:27	12:52:52	-24.1363
DJI_0012.JPG		#####	12:53:09	2019:06:27	12:53:09	-24.1363
DJI_0013.JPG		#####	13:00:55	2019:06:27	13:00:55	-24.1484
DJI_0014.JPG		#####	13:01:31	2019:06:27	13:01:31	-24.1486
DJI_0015.JPG		#####	13:01:42	2019:06:27	13:01:42	-24.1488
DJI_0016.JPG		#####	13:01:51	2019:06:27	13:01:51	-24.1487
DJI_0017.JPG	in use	#####	13:02:44	2019:06:27	13:02:44	-24.1491
DJI_0018.JPG		#####	13:04:16	2019:06:27	13:04:16	-24.1514
DJI_0019.JPG	In use	#####	13:05:15	2019:06:27	13:05:15	-24.1525
DJI_0020.JPG	In use	#####	13:05:45	2019:06:27	13:05:45	-24.1526
DJI_0021.JPG	In use	#####	13:08:39	2019:06:27	13:08:39	-24.1535
DJI_0022.JPG		#####	13:09:25	2019:06:27	13:09:25	-24.1541
DJI_0023.JPG		#####	13:09:52	2019:06:27	13:09:52	-24.1542
DJI_0024.JPG		#####	13:10:53	2019:06:27	13:10:53	-24.1552
DJI_0025.JPG	In use	#####	13:11:44	2019:06:27	13:11:44	-24.1558
DJI_0026.JPG		#####	13:11:47	2019:06:27	13:11:47	-24.1558
DJI_0027.JPG		#####	13:12:57	2019:06:27	13:12:57	-24.1573
DJI_0028.JPG	In use	#####	13:13:44	2019:06:27	13:13:44	-24.1579
DJI_0029.JPG		#####	13:14:46	2019:06:27	13:14:46	-24.1586
DJI_0030.JPG	In use	#####	13:15:38	2019:06:27	13:15:38	-24.1592
DJI_0031.JPG		#####	13:16:24	2019:06:27	13:16:24	-24.1594
DJI_0032.JPG	In use	#####	13:17:21	2019:06:27	13:17:21	-24.1599
DJI_0033.JPG	In use	#####	13:18:01	2019:06:27	13:18:01	-24.1601
DJI_0034.JPG	In use	#####	13:19:12	2019:06:27	13:19:12	-24.1615
DJI_0035.JPG		#####	13:20:05	2019:06:27	13:20:05	-24.1616
DJI_0036.JPG		#####	13:21:20	2019:06:27	13:21:20	-24.1635
DJI_0037.JPG		#####	13:23:48	2019:06:27	13:23:48	-24.1658
DJI_0038.JPG		#####	13:24:46	2019:06:27	13:24:46	-24.1664
DJI_0039.JPG		#####	13:24:49	2019:06:27	13:24:49	-24.1664
DJI_0040.JPG		#####	13:25:45	2019:06:27	13:25:45	-24.1669
DJI_0041.JPG		#####	13:26:49	2019:06:27	13:26:49	-24.1675
DJI_0042.JPG		#####	13:26:50	2019:06:27	13:26:50	-24.1675
DJI_0043.JPG		#####	13:30:30	2019:06:27	13:30:30	-24.1679
DJI_0044.JPG	In use	#####	13:31:20	2019:06:27	13:31:20	-24.1679
DJI_0045.JPG	In use	#####	13:33:01	2019:06:27	13:33:01	-24.168
DJI_0046.JPG	In use	#####	13:35:20	2019:06:27	13:35:20	-24.1691
DJI_0047.JPG		#####	13:35:57	2019:06:27	13:35:57	-24.1692
DJI_0048.JPG	In use	#####	13:37:00	2019:06:27	13:37:00	-24.1697
DJI_0049.JPG	In use	#####	13:39:23	2019:06:27	13:39:23	-24.172

DJI_0050.JPG		#####	13:41:02	2019:06:27	13:41:02	-24.1725
DJI_0051.JPG		#####	13:41:08	2019:06:27	13:41:08	-24.1725
DJI_0052.JPG		#####	13:41:16	2019:06:27	13:41:16	-24.1725
DJI_0053.JPG		#####	13:41:29	2019:06:27	13:41:29	-24.1731
DJI_0054.JPG		#####	13:41:37	2019:06:27	13:41:37	-24.1731
DJI_0055.JPG		#####	13:51:56	2019:06:27	13:51:56	-24.1723
DJI_0056.JPG	In use	#####	13:54:21	2019:06:27	13:54:21	-24.1733
DJI_0057.JPG		#####	13:56:55	2019:06:27	13:56:55	-24.1761

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140.5218	99.63							v01.05.157
140.5236	99.72							v01.05.157
140.5282	101.63							v01.05.157
140.5281	61.83							v01.05.157
140.5293	58.42							v01.05.157
140.5293	58.42							v01.05.157
140.5305	57.61							v01.05.157
140.5305	95.71							v01.05.157
140.5317	54.81							v01.05.157
140.5317	54.81							v01.05.157
140.5317	96.21							v01.05.157
140.5368	50.61							v01.05.157
140.5367	96.61							v01.05.157
140.5367	96.61							v01.05.157
140.5369	77.81							v01.05.157
140.5368	58.71							v01.05.157
140.5379	55.11							v01.05.157
140.538	53.01							v01.05.157
140.538	55.41							v01.05.157
140.5385	55.44							v01.05.157
140.5387	55.14							v01.05.157
140.539	55.44							v01.05.157
140.5399	60.64							v01.05.157
140.5396	55.94							v01.05.157
140.5396	56.04							v01.05.157
140.5401	52.94							v01.05.157
140.5406	64.84							v01.05.157
140.5406	52.34							v01.05.157
140.5411	52.64							v01.05.157
140.5409	51.44							v01.05.157
140.5414	56.94							v01.05.157
140.541	56.34							v01.05.157
140.5419	51.24							v01.05.157
140.5416	49.54							v01.05.157
140.5426	48.64							v01.05.157
140.5433	47.34							v01.05.157
140.5434	49.44							v01.05.157
140.5434	49.44							v01.05.157
140.5435	51.54							v01.05.157
140.5437	49.64							v01.05.157
140.5437	49.54							v01.05.157
140.5439	50.89							v01.05.157
140.5442	49.09							v01.05.157
140.5442	51.89							v01.05.157
140.5443	48.99							v01.05.157
140.5444	48.59							v01.05.157
140.5447	52.09							v01.05.157
140.5459	50.49							v01.05.157

140.5457	78.19
140.5457	78.29
140.5457	78.29
140.5462	75.19
140.5462	75.19
140.5461	89.64
140.5437	50.84
140.5412	88.54

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Published on DES Disclosure Log
RTI Act 2009

! "Filename"	JA BAS assessment	Date	Time	Date and ti	User comr	GPS latitud	GPS longitu
DJI_0001.JPG		#####	13:56:59	2019:06:29	13:56:59	-24.1734	140.5469
DJI_0002.JPG	In use	#####	13:59:03	2019:06:29	13:59:03	-24.1737	140.5487
DJI_0003.JPG		#####	14:00:19	2019:06:29	14:00:19	-24.1743	140.5501
DJI_0004.JPG	In use	#####	14:00:42	2019:06:29	14:00:42	-24.1742	140.5502
DJI_0005.JPG		#####	14:01:31	2019:06:29	14:01:31	-24.1746	140.5516
DJI_0006.JPG		#####	14:05:21	2019:06:29	14:05:21	-24.1758	140.5585
DJI_0007.JPG		#####	14:07:18	2019:06:29	14:07:18	-24.1759	140.5612
DJI_0008.JPG		#####	14:07:54	2019:06:29	14:07:54	-24.176	140.5616
DJI_0009.JPG		#####	14:08:29	2019:06:29	14:08:29	-24.1762	140.5618
DJI_0010.JPG		#####	14:10:02	2019:06:29	14:10:02	-24.1767	140.5644
DJI_0011.JPG		#####	14:10:36	2019:06:29	14:10:36	-24.1767	140.5648
DJI_0012.JPG		#####	13:53:21	2019:06:29	13:53:21	-24.1776	140.5672
DJI_0013.JPG		#####	13:54:05	2019:06:29	13:54:05	-24.1779	140.5682
DJI_0014.JPG		#####	13:57:00	2019:06:29	13:57:00	-24.1788	140.5727
DJI_0015.JPG		#####	13:59:09	2019:06:29	13:59:09	-24.1799	140.5765
DJI_0016.JPG		#####	13:59:28	2019:06:29	13:59:28	-24.1798	140.5766
DJI_0017.JPG		#####	14:00:31	2019:06:29	14:00:31	-24.1803	140.5789
DJI_0018.JPG		#####	14:02:16	2019:06:29	14:02:16	-24.1809	140.5808
DJI_0019.JPG		#####	14:03:21	2019:06:29	14:03:21	-24.1817	140.5824
DJI_0020.JPG	In use	#####	14:04:36	2019:06:29	14:04:36	-24.1822	140.584
DJI_0021.JPG	In use	#####	14:04:52	2019:06:29	14:04:52	-24.1821	140.5841
DJI_0022.JPG		#####	14:07:19	2019:06:29	14:07:19	-24.1828	140.5879
DJI_0023.JPG	In use	#####	14:08:01	2019:06:29	14:08:01	-24.1828	140.5885
DJI_0024.JPG	In use	#####	14:08:34	2019:06:29	14:08:34	-24.183	140.5887
DJI_0025.JPG		#####	14:09:16	2019:06:29	14:09:16	-24.1832	140.5891
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DJI_0027.JPG		#####	14:12:55	2019:06:29	14:12:55	-24.1835	140.5902
DJI_0028.JPG		#####	14:14:16	2019:06:29	14:14:16	-24.1834	140.5917
DJI_0029.JPG		#####	14:16:58	2019:06:29	14:16:58	-24.1833	140.5955
DJI_0030.JPG		#####	14:19:54	2019:06:29	14:19:54	-24.1834	140.5985
DJI_0031.JPG		#####	14:28:12	2019:06:29	14:28:12	-24.1852	140.6155
DJI_0032.JPG	In use	#####	14:33:21	2019:06:29	14:33:21	-24.1866	140.6213
DJI_0033.JPG		#####	14:36:39	2019:06:29	14:36:39	-24.1867	140.6212
DJI_0034.JPG		#####	14:36:44	2019:06:29	14:36:44	-24.1867	140.6212
DJI_0035.JPG		#####	14:36:48	2019:06:29	14:36:48	-24.1867	140.6212
DJI_0036.JPG		#####	14:37:36	2019:06:29	14:37:36	-24.1867	140.6215
DJI_0037.JPG	In use	#####	14:39:34	2019:06:29	14:39:34	-24.1877	140.6253
DJI_0038.JPG		#####	14:40:02	2019:06:29	14:40:02	-24.1879	140.6253
DJI_0039.JPG		#####	14:42:34	2019:06:29	14:42:34	-24.1897	140.6306
DJI_0040.JPG		#####	14:43:12	2019:06:29	14:43:12	-24.1897	140.6308
DJI_0041.JPG	In use	#####	14:51:11	2019:06:29	14:51:11	-24.1944	140.65
DJI_0042.JPG	In use	#####	14:56:55	2019:06:29	14:56:55	-24.1974	140.6644
DJI_0043.JPG		#####	14:58:09	2019:06:29	14:58:09	-24.1981	140.6684

GPS altitud	GPS date/ti	GPS Directi	IPTC Headli	IPTC Descri	IPTC Keywc	XP Keywor	XP Comme	XP Author
65.87							v01.05.157	Type=N, Mi
69.37							v01.05.157	Type=N, Mi
72.17							v01.05.157	Type=N, Mi
74.97							v01.05.157	Type=N, Mi
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71.57							v01.05.157	Type=N, Mi
69.87							v01.05.157	Type=N, Mi
68.37							v01.05.157	Type=N, Mi
66.17							v01.05.157	Type=N, Mi
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72.47							v01.05.157	Type=N, Mi
102.25							v01.05.157	Type=N, Mi
102.85							v01.05.157	Type=N, Mi
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70.65							v01.05.157	Type=N, Mi
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66.25							v01.05.157	Type=N, Mi
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67.15							v01.05.157	Type=N, Mi
103.15							v01.05.157	Type=N, Mi
68.05							v01.05.157	Type=N, Mi
63.15							v01.05.157	Type=N, Mi
64.55							v01.05.157	Type=N, Mi
65.15							v01.05.157	Type=N, Mi
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99.1							v01.05.157	Type=N, Mi
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107.94							v01.05.157	Type=N, Mi
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94.24							v01.05.157	Type=N, Mi

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Date : 4/12/2019 12:49:19 PM
From : "WILSON James"
To : "RICH Maree"
Subject : RE: Bilby Burrow locations
Attachment : image001.jpg;

Glad all is well!

I've sent them a rectangle in that area and will see what they come up with. We don't have any control over dates at this stage and it looks like they only do one pass each year, so will be interesting to see what they come back with. I suspect that it will be too coarse to see what we want.

This is the AWC article that they are wondering if they can recreate:

<https://www.australianwildlife.org/faure-drones/>

it will be interesting to see how applicable it would be to something as cryptic as bilbies at a scale the size of Astrebla.

David Field is the one running the innovation arena pitch and he has been in touch with Barry which is good. I told him it would also be worth him getting in touch with you and JA as you know a lot more than me!

Cheers

James

From: RICH Maree
Sent: Wednesday, 4 December 2019 12:32 PM
To: WILSON James
Cc: AUGUSTEYN John
Subject: RE: Bilby Burrow locations

Hi James

We are all doing well... heads down and out of mischief. Mostly.

I've conferred with John and we both reckon that the area from the Bore Drain (from No 2 and south onto Kite Drive) and east across to Backwards Creek would be a good place to try?

Is there any flexibility with what date the imagery will be from....?

thanks

Maree Rich
Conservation Officer - Pest Management
Central Region | Technical Support
Queensland Parks and Wildlife Service
Department of Environment and Science

.....
P 07 4536 8395
Landsborough Highway, Longreach
PO Box 202, Longreach, 4730

From: WILSON James <James.Wilson@des.qld.gov.au>
Sent: Wednesday, 4 December 2019 9:49 AM
To: RICH Maree
Subject: Bilby Burrow locations

Ahoy Ahoy!!

How is the great and wild west?

There is an innovation project to look at using drones to map bilby burrows. I am talking to a satellite imagery mob to see if they can provide hi-res imagery and see if that could pick anything up. I am not sure if they can provide anything with enough resolution for what we want as the finest they can do is 30cm pixels. They would like to send us 10-20km² of sample imagery, do you have an area that you would recommend that has good density of burrows we could use as a test?

Hope all is well,

James

James Wilson | Senior Project Officer – Asset Services
Queensland Parks and Wildlife Service & Partnerships
Department of Environment and Science

QPWS Toowoomba | PO Box 1442 | Toowoomba Qld 4350
Ph 07 4529 8397 Mo 4(6) Personal info
Email James.Wilson@qld.gov.au

I acknowledge that Aboriginal Peoples and Torres Strait Islander Peoples are the Traditional Owners of this country and they retain their relationship and connection to the land, sea and community.

I pay my respects to all Traditional Owners, and to the Elders past, present and the future for land and sea on which I work, live and walk.



Published on DES Disclosure Log
RTI Act 2009

Date : 7/06/2019 1:41:06 PM
From : "FLEISCHFRESSER Kim"
To : "RICHARDS Samuel" , "FERGUSON Hayden"
Cc : "BROOK Scott" , "SCOTT Naomi"
Subject : RE: Drone operations Capricornia
Thanks for all of the info, Sam! Obviously not my field of expertise ;)

From: RICHARDS Samuel <Samuel.Richards@des.qld.gov.au>
Sent: Friday, 7 June 2019 1:38 PM
To: FLEISCHFRESSER Kim; FERGUSON Hayden
Cc: BROOK Scott; SCOTT Naomi
Subject: RE: Drone operations Capricornia

Hi Kim,

Trained personnel include myself, Scott, Paul, Naomi, Dan, Bluey, Leanne (needs a refresher). Carlin has experience but I am unsure if he has the requirements set by us.

Primarily used in Rockhampton for fires, reveg monitoring, sisal monitoring, other weed monitoring. In Byfield for fires, dune regeneration, compliance, weed monitoring. Everywhere they are used for fire scar mapping and location of hotspots.

Log system is through DJIGO and each user is required to have their own log in with CASA. DJIGO logs the use of the drone to the individuals account. Each person is also required to have an ARN which allows permissions to fly. We also use the 'can I fly there' app.

RMU will be using the drone in the next three months for the above tasks. RMU has also discussed training other team members. There were instances last year where relying on limited individuals put extra pressure on these individuals and minimised the effectiveness and efficiencies of using the drone.

Thanks
Sam

From: FLEISCHFRESSER Kim <Kim.Fleischfresser@des.qld.gov.au>
Sent: Friday, 7 June 2019 10:29 AM
To: FERGUSON Hayden
Cc: BROOK Scott; RICHARDS Samuel
Subject: FW: Drone operations Capricornia

Drones at Rockhampton, Byfield and Blackdown

Trained – Sam Richards, Scott Brook, Paul Harris (?) [Scott to confirm]

Primarily used to survey fires – determine extent of spread and fire behaviour etc. (no log system used ATM), have also used to assist stakeholder (FBA) survey for weed management works

Intended use next 3 months will primarily be fire management (reduces need for physical staff effort in many instances, good for fatigue management)

From: FERGUSON Hayden <Hayden.Ferguson@des.qld.gov.au>
Sent: Friday, 7 June 2019 10:19 AM
To: FLEISCHFRESSER Kim; BAILEY Caleb; SANSOM David
Subject: Drone operations Capricornia

Morning

I have had some enquiries in terms of our drone operations and particularly compliance with CASA regulation

David please disregard if you aren't utilising

Please could I ask for a brief overview

- Where we have drones
- Who are our trained operators
- What we are utilising the drones for (useful to have any records / logs for last three months)
- What we intend to use drones for in next 3 months ?

Thanks I will provide further in terms of what requirements are – just an overview please – medium priority.

Regards

Hayden Ferguson
A/ Principal Ranger, Capricornia
Central Region I QPWS & Partnerships
Department of Environment and Science

P 07 4722 5343 | VoIP 20343 | Mobile (6) Personal Infor
Level 10 | 445 Flinders St Townsville 4810
PO Box 5597 Townsville 4810
E-mail: hayden.ferguson@des.qld.gov.au

Date : 22/07/2019 12:31:04 PM
From : "BROOK Scott"
To : "CARSBURG Tracy"
Subject : RE: Drones Use in National Parks
Attachment : image001.png;image004.gif;image006.png;image003.png;
Hi.

No I have nothing. It is my frustration with inaction that prompted Paul to meet with Ben. Paul is the chair of the DES Drone WG.

- We have been having DES Drone Working Group meetings monthly, with me often being the only Parks attendee.
- I have been unable to progress QPWS interest in policy. Right back to the FSI project, nothing has changed and I believe QPWS EMG are awaiting DES to solve the policy issue. I have been unable to do any of it myself due to my post 2018 wildfire recovery workload.
- **Yes, Todd (and Dianna Hughes') work is the most recent.**
- It needs to be considered from the following perspectives;
 - Overarching DES strategy, derived from the QLD Drones Strategy.
 - Divisional guidelines that provide the appropriate level of governance pursuant to the risk of flying that we are undertaking.
 - ESR- need a chief pilot and the robust control of an Operators Certificate (I believe they are almost there anyhow). Because their risk of flying over industrial sites for compliance actions.
 - QPWS (Wildlife)- should probably also operate under that ReOC due to the risk of flying 'off estate' up rivers looking for crocodiles or surveying flying fox communities.
 - QPWS (Parks)- need consistent governance to manage our lower risk of flying on our estate, often km's away from public.
 - Science- well I assume they need something and it will probably be ReOC because they fly off estate.
 - Visitor use of drones on our estate.

Sorry that I can't offer more on this.

From: CARSBURG Tracy <Tracy.Carsburg@des.qld.gov.au>
Sent: Monday, 22 July 2019 12:13 PM
To: BROOK Scott
Subject: RE: Drones Use in National Parks

Hi Scott, do you have any info that you could pass on to Paul or should I follow up with Todd Kelly?



Tracy Carsburg
Director, Digital Futures and Ventures
Digital and Information Services, Science and Technology
Department of Environment and Science
M (6) Personal info Skype/Teams audio call
E tracy.carsburg@des.qld.gov.au
GA East, Ecoscience Precinct, Boggo Road, Dutton Park, Brisbane

(Please check location via Skype for Business/Teams - varies daily)

Please consider the environment before printing this email

From: LAWRENCE Paul <paul.lawrence@des.qld.gov.au>
Sent: Friday, 19 July 2019 8:20 AM
To: CARSBURG Tracy
Cc: JONES Cameron; BARKER Tim
Subject: Drones Use in National Parks

Hi Tracy,
Yesterday I met with Ben Klaassen about progressing a policy on the use of drones in park estates, and it was mentioned that you had previously done some work to review the approaches taken by other States.
Would you still have this work, and any other background material that would be relevant for this issue?

Cheers,
Paul



Dr Paul Lawrence
A/Executive Director, Science Delivery and Knowledge
Science and Technology Division
Department of Environment and Science
P 07 3170 5624 M (6) Personal info
41 Boggo Road Dutton Park
GPO Box 2454 BRISBANE QLD 4001
Em: paul.lawrence@des.qld.gov.au

Project Officer | Jodie Frommolt | Ph: 07 31705448

Qld Water Modelling Network: <https://www.des.qld.gov.au/science/government/science-division/water-modelling-network/>

Published on DES Disclosure Log
RTI Act 2009

Date : 22/05/2019 4:30:57 PM

From : "GLOSKO Brett"

To : "BROOK Scott"

Cc : "LAWRENCE Paul" , "CONNOR Nathan" , "Drones Working Group DES" , "Northern Region Drone Users" , "ORCHARD Richard" , "CARTER Greg" , "LINO Starsky" , "SHERMAN Kathrin"

Subject : RE: Drones Working Group Meeting #4

Attachment : image001.png;image002.png;image003.png;image006.png;image009.png;

Thanks Scott,

As a bit of an update, I recently attended a Chief Remote Pilot workshop, whereby my understanding on the responsibilities for excluded Remotely Piloted Aircraft (RPA) operations, and that of the Chief Remote Pilot role has been challenged.

That is to say, it appears the Chief Remote Pilot will have responsibilities for operations in the excluded category, as well as the included ReOC category.

Obviously this was a bit of a light bulb moment for me, as it significantly increases my responsibility and workload.

As such, I would be keen to have visibility of the excluded category operations discussions, and obviously happy to assist where possible.

Other changes/updates for excluded operations have come about as a result of the recently released Manual of Standards (MOS), which increases responsibilities for operators in the excluded category. A primary example would be record keeping requirements.

I can't recall if I sent you anything as yet, however as a result of the MOS release, I have started discussions with our software provider for our Governance, Compliance and Risk Management tool (AVCRM). I have been discussing the development of an instance of this program for excluded operations. This would include having all excluded category rules built into the program to allow the flight planning process to ensure the operation was clearly within the excluded category requirements, and warnings and restrictions if a planned operation attempts to breach the rules. I think this would be a very useful tool for your guys, and will tick the boxes for record keeping as required by the MOS.

As a quick update on the progression of the included category ops, the DES ReOC application has been submitted today.

I will be working through that process with a Brisbane based CASA delegate, and hope to have the DES ReOC approved within the coming weeks.

My next priority will then be to ensure the ESR pilots are operationally ready to assist with waste levy compliance tasks by 1 July.

Once that's done, I will have a bit more time to work on developing DES policy and procedures for all RPAS operations in conjunction with the DES Drones Working Group. Obviously having a good understanding of operational requirements, existing documentation, etc will be very beneficial to this process.

Talk again soon.



Brett Glosko
Compliance Delivery Manager
Remotely Piloted Aircraft Systems
Waste Operations / Waste and Recovery
Environmental Services and Regulation
Department of Environment and Science

P 07 5626 6840
ARN 1057139
Level 1, APVC Building, 14 Edgewater Court, Robina, Gold Coast QLD 4226
PO Box 4244, Robina QLD 4230

From: BROOK Scott <Scott.Brook@des.qld.gov.au>

Sent: Tuesday, 21 May 2019 9:21 PM

To: GLOSKO Brett

Cc: LAWRENCE Paul; CONNOR Nathan; Drones Working Group DES; Northern Region Drone Users; ORCHARD Richard; CARTER Greg

Subject: RE: Drones Working Group Meeting #4

Hi Brett,

Carrying on some discussion below with red comments.

Pls note QPWS is arranging a get together to consolidate the perspective of the Level A user and where that line is to maintain clarity between the two user groups. I'll keep you posted on that progress. Likely this process will benefit from your collaboration at some point as well.

Regards

Scott Brook
A/Assistant Principal Ranger
Central Region.



From: GLOSKO Brett <Brett.Glosko@des.qld.gov.au>
Sent: Wednesday, 17 April 2019 12:20 PM
To: BROOK Scott
Cc: LAWRENCE Paul; CONNOR Nathan; Drones Working Group DES
Subject: RE: Drones Working Group Meeting #4

Hi Scott,

Totally agree we need to include a software category in our procedural documents.

I agree with the notion discussed yesterday to lock down the choices, as long as choices are fit for purpose and meet the variety of business needs across the divisions. I'm hoping to maintain our relationship with DNRME (and anyone else with expertise) to assist guide us as we develop our learnings and experience in this space. **Agree, and we really don't have much choice on this. We do need to stay compliant with QGCIO rules on software adoption.**

I'm not sure the type of software used easily aligns with the proposed QPWS user groups in either "level A" or "level B"? **Will see what comes out of the QPWS "Level A" users meeting.** My understanding of these categories relates to the type of aircraft (i.e. sub 2 kg), and the operating environment (i.e. low risk, over QPWS estate, within excluded category criteria). An operator in the level A category may still require higher end software to ensure an appropriate product. I have attached a draft work request form that I created for the ESR jobs. Maybe we think about a DES form (online preferably) that has a section clearly outlining the product required, and we can then match the operator, equipment and associated software to the requested need/product? Just a thought as this matures. **Absolutely. Drones in the workplace and the associated governance will be a**

We'll need to think about how we write the guidance and procedures to ensure we don't "waste" resources unnecessarily (i.e. buying gear and software that may not be required for the task, or at all, or vice versa, ensuring business units buy something that will deliver what they actually need, with consideration of what is already available to support the requirement?). **Yep, the QGCIO software risk assessment considers this.**

This probably leads on to your last thought about how often the activity occurs and the value for money in a business unit owning and operating their own gear? I agree it's not cost effective if it's a couple of times a year, and can be planned for delivery using an existing resource within a suitable timeframe. I can't yet speak for all DES resources or divisions, however I can inform you that the ESR DDG Dean Ellwood confirmed his support for ESR resources to provide broader support to DES business, and even to other departments and/or disaster or incident response needs if required. This is a good outcome, however will need to be balanced against officers existing workloads. Like everyone else, the ESR pilots have normal day jobs, and continue to be under pressure from high workloads. **A briefing for the QPWS EMG will probably come out of the QPWS drone users meeting (mentioned above) to garner their formal support and keep them briefed on policy progress.**

It will be interesting to see how this evolves, and if any dedicated resources becomes available to support this growing demand? **Yeah, like you I've been looking seriously at this for a while now. Definitely needs some form of dedicated support.** A small RPAS team may negate a broader need for high numbers of part-time pilots and aircraft? I don't think anyone has looked at a broader cost/benefit analysis as yet? **Not that I'm aware of. The DWG need to ensure that we send reps to any decent drone conferences and we should push to network with other land management and EP agencies to share knowledge / resources. Probably need to do a bit of a literature review on the drone management systems.**



Brett Glosko
Compliance Delivery Manager
Operation TORA & Remotely Piloted Aircraft Systems
Waste Operations / Waste and Recovery
Environmental Services and Regulation
Department of Environment and Science

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ARN 1057139
Level 1, APVC Building, 14 Edgewater Court, Robina, Gold Coast QLD 4226
PO Box 4244, Robina QLD 4230

-----Original Appointment-----

From: BROOK Scott <Scott.Brook@des.qld.gov.au>
Sent: Tuesday, 16 April 2019 3:54 PM
19-211

To: SIMONDS Gaynor; LAWRENCE Paul; GLOSKO Brett; CONNOR Nathan; YEATES Christine

Subject: Accepted: Drones Working Group Meeting #4

When: Tuesday, 16 April 2019 2:00 PM-3:00 PM (UTC+10:00) Brisbane.

Where: Great Barrier Reef Room, Level 3, 400 George Street, Brisbane / Skype

Hi All,

Sorry but my skype link dropped out of the UAV software discussion at 345pm.

I note that QPWS needs to include this topic in their level A Drone User governance document to assure DISC / DES that we will achieve policy compliance. I think our software needs are so simple, this will be easily done. Once we need more complex tools, we step into the Level B user group who should be operating under the DES ReOC and all associated governance.

One point of interest that I'd like to explore at some point is how the well-established DES units with Drones (especially those under the ReOC), are enabled to provide higher end UAV service to those units who might need a drone once or twice a year, therefore won't have pilots or their own UAV.

Thanks



Scott Brook

A/Assistant Principal Ranger

Central Region.

Department of Environment and Science

P 07 4936 0105 M 4(6) Personal inform

61 Yeppon Rd, Nth Rockhampton

PO Box 3130, Nth Rockhampton 4701

Date : 31/05/2019 3:19:24 PM
From : "ORCHARD Richard"
To : "BROOK Scott"
Subject : RE: Drones Working Group Meeting #5
Attachment : image001.png;image002.png;image004.png;
Thanks Scott



Richard Orchard
Senior Ranger
Moreton Bay Marine Park
Great Barrier Reef & Marine Parks Region I QPWS & Partnerships
Department of Environment and Science

P 07 31012090
34 Trafalgar Street, Manly, 4179
PO Box 5178, Manly, 4179
E-mail: Richard.Orchard@des.qld.gov.au

From: BROOK Scott <Scott.Brook@des.qld.gov.au>
Sent: Friday, 31 May 2019 2:42 PM
To: ORCHARD Richard
Cc: CONNOR Nathan
Subject: RE: Drones Working Group Meeting #5

Hi Richard,

Happy to chat but the sad fact is that not a lot has changed. I do really want you present at the QPWS UAV users group meeting in early July. There you will be thoroughly brought up to speed with the mechanics of the DES Drone Working Group and provide direct advice to drive the QPWS element of the DES Drone Procedure.

I'm considering you to be the Marine Regions representative unless you let me there are others who should be involved.

I'll send an invite when I work out a date.

Regards

Scott

From: ORCHARD Richard <Richard.Orchard@des.qld.gov.au>
Sent: Friday, 31 May 2019 9:03 AM
To: BROOK Scott
Subject: RE: Drones Working Group Meeting #5

Hi Scott,

When you have a chance can you give me a call so we can catch up on what is happening with drones as I seem to have missed a bit.

Cheers,
Richard



Richard Orchard
Senior Ranger
Moreton Bay Marine Park
Great Barrier Reef & Marine Parks Region I QPWS & Partnerships
Department of Environment and Science

P 07 31012090
34 Trafalgar Street, Manly, 4179
PO Box 5178, Manly, 4179
E-mail: Richard.Orchard@des.qld.gov.au

From: BROOK Scott <Scott.Brook@des.qld.gov.au>
Sent: Tuesday, 28 May 2019 1:45 PM
To: Drones Working Group DES
Cc: CONNOR Nathan; DOLLERY Colin; MCLAUGHLIN Marty; GLOSKO Brett; CARTER Greg; ORCHARD Richard; MILLS Frank
Subject: RE: Drones Working Group Meeting #5

Hello DES Drones Working Group.

Please accept my apologies for non-attendance at this meeting. I have an emergent commitment.

Please note at this meeting I would have explained to the WG that;

1. QPWS are advancing a divisional drones sub-group to coordinate the specific needs of the division.
2. We intend to communicate the endorsed outcomes from this meeting to the DES Drones WG. Likely in August 2019.
3. We expect no conflict with current direction of DES Drones WG but will refine the desired approach in areas such as;
 - a. Internal use of Drones in the CASA Exempt category (e.g. use of <2kg drones on fire management operations to promote situational awareness).
 - b. Internal use of drones under the ReOC (e.g. wildlife operations and other higher risk QPWS operations).
 - c. Consideration of policy requirements of recreational drone users on QPWS managed estate.

Regards



Scott Brook
A/Assistant Principal Ranger
Central Region.
Department of Environment and Science

P 07 4936 0105 M 04(6) Personal Inform
61 Yeppon Rd, Nth Rockhampton
PO Box 3130, Nth Rockhampton 4701

-----Original Appointment-----

From: Drones Working Group DES

Sent: Tuesday, 30 April 2019 1:56 PM

To: Drones Working Group DES; BROOK Scott; LAWRENCE Paul; KLAASSEN Ben; ROWE Anna; Julie Burton; DELZOPPO Lindsay; MOULDS Katie; GLOSKO Brett; CONNOR Nathan; DOLLERY Colin; HILL David (DAF); BARKER Tim; JONES Cameron; YEATES Christine

Subject: Fwd: Drones Working Group Meeting #5

When: Wednesday, 29 May 2019 10:00 AM-11:00 AM (UTC+10:00) Brisbane.

Where: Skype and Great Barrier Reef Room, level 3, 400 George Street Brisbane

Sent from my iPhone

Begin forwarded message:

From: "Drones Working Group DES" <DronesWG@des.qld.gov.au>

To: "LAWRENCE Paul" <paul.lawrence@des.qld.gov.au>, "KLAASSEN Ben" <Ben.Klaassen@des.qld.gov.au>, "ROWE Anna" <Anna.Rowe@des.qld.gov.au>, "Julie Burton" <Julie.burton@caa.qld.gov.au>, "DELZOPPO Lindsay" <Lindsay.Delzoppo@des.qld.gov.au>, "MOULDS Katie" <Katie.Moulds@des.qld.gov.au>, "GLOSKO Brett" <Brett.Glosko@des.qld.gov.au>, "BROOK Scott" <Scott.Brook@des.qld.gov.au>, "CONNOR Nathan" <Nathan.Connor@des.qld.gov.au>, "DOLLERY Colin" <Colin.Dollery@des.qld.gov.au>, "HILL David (DAF)" <David.Hill@daf.qld.gov.au>, "BARKER Tim" <Tim.Barker@des.qld.gov.au>, "JONES Cameron" <Cameron.Jones@des.qld.gov.au>, "YEATES Christine" <Christine.Yeates@des.qld.gov.au>

Subject: Drones Working Group Meeting #5

Hi all,

This meeting invite replaces the previous one from Gaynor so we can use this new Skype link. I'll get Gaynor to cancel the previous calendar invite.

Link to SharePoint for agenda when finalised: <https://itpql.sharepoint.com/sites/DES/DigGov/Drones/SitePages/Welcome.aspx>

Join Skype Meeting <<https://meet.lync.com/des.qld.gov.au/christine.yeates/7WWBKW66>>

Trouble Joining? Try Skype Web App <<https://meet.lync.com/des.qld.gov.au/christine.yeates/7WWBKW66?s=1>>

Help <<http://go.microsoft.com/fwlink/?LinkId=389737>>

[!OC([1033])!]

Kind regards, Christine.

[\[cid:image002.png@01D4FF5C.5D436900\]](#)

Dr Christine Yeates
Manager
Digital and Information Services | Science and Technology
Department of Environment and Science

Mp4(6) Personal inform

Level 8, 400 George St, Brisbane QLD 4000
GPO Box 2454, Brisbane QLD 4001

Please consider the environment before printing this email



Date : 17/10/2019 9:49:30 AM
From : "MCLAUGHLIN Marty"
To : "MACINTYRE Diane"
Subject : RE: Due 18 Oct 2019 - ##Additional Actions required## FW: Due 18 Oct 2019 - Management of drones
Attachment : image006.png;image007.png;image008.png;image011.png;image012.png;image013.jpg;image014.png;image016.png;image017.jpg;

That is done

Marty McLaughlin
Principal Ranger (Central Region)
Department of Environment and Science
Phone: (07) 4796 7790
Mobile 6) Personal inf
Email to : marty.mclaughlin@des.qld.gov.au
Visit us online at www.des.qld.gov.au

From: MACINTYRE Diane <Diane.MacIntyre@des.qld.gov.au>
Sent: Thursday, 17 October 2019 9:40 AM
To: MCLAUGHLIN Marty
Subject: FW: Due 18 Oct 2019 - ##Additional Actions required## FW: Due 18 Oct 2019 - Management of drones
Importance: High

Hi Marty,

As per email below and attached with the invoice from Kim Finlay, I have created an asset shell in SAP for the Airlie Beach drone. Could I ask you to approve it please.

Cheers, Diane



Diane MacIntyre
Area Administration Officer
Central West 1 Central Region
Queensland Parks and Wildlife Service & Partnerships
Department of Environment and Science

P 07 4796 7778
Level 10, 445 Flinders Street, Townsville
PO Box 5597, Townsville Qld 4810

From: BECKMAN Alan <Alan.Beckman@des.qld.gov.au>
Sent: Friday, 11 October 2019 4:17 PM
To: Corro QPWS Northern CR; LANCASTER Stacey; MACINTYRE Diane; Central Tech Support Admin
Cc: BROOK Scott; STAUNTON Jo
Subject: RE: Due 18 Oct 2019 - ##Additional Actions required## FW: Due 18 Oct 2019 - Management of drones

Hi Karen,

There are 7 Drones within Central Region, have created the Asset numbers in Loc8 and entered all available information in to Loc8 (see below).

Location	Asset - ID	Name	Make	Model	Serial No.	Attachments	Maintainer Name
Clermont	AST-0059937	Drone - DJI Platinum Mavic Pro	DJI Mavic Pro	Mavic Pro (M1P)	08QCF9KP1246DK	Standard camera	Caleb Bailey
Mackay	AST-0059939	Drone - DJI Mavic Pro	DJI Mavic Pro	Mavic Pro (M1P)	08QUE4F001054D	4K, 12.71 megapixel 1/2.3" CMOS sensor	Edward Adams
Blackdown	AST-0060415	Drone - DJI Mavic Air	Mavic Air	Mavic Air (M1P)	TBC	Standard Camera	Carlin Burns
Conway NP	AST-0060417	Drone - DJI Phantom 4	DJI	Phantom 4 Pro Obsidian	189CEAUBA20272	Stock Gimbal / camera	Kim Finlay
Parkhurst	AST-0060418	Drone - DJI Phantom 4 - Quad-copter	DJI	Phantom 4 WM33IS	2018CMT ID. 2018AP1090	Standard Camera	Samuel Richards
Byfield	AST-0060419	Drone - DJI Phantom 4 - Quad-copter	DJI - Phantom 4	Phantom 4 (WM330A)	*07BDD85 OB10242 - SSE- GL30001510 IC-11805A	4K, 12.4 megapixel, 1/2.3" COMS sensor	Paul Harris
Parkhurst	AST-0060420	Drone - DJI Quad-copter	DJI Spark (MM1A)	Spark (MM1A)	QASDE7Q1C1000D1	2-axis gimbal, 12 megapixel	Scott Brook

Hope the above is what you are after.

Regards
Alan

From: Corro QPWS Northern CR <QPWSnorthernCR.Corro@des.qld.gov.au>
Sent: Thursday, 10 October 2019 3:34 PM
To: BECKMAN Alan; LANCASTER Stacey; MACINTYRE Diane; Central Tech Support Admin
Cc: BROOK Scott; STAUNTON Jo; Corro QPWS Northern CR
Subject: Due 18 Oct 2019 - ##Additional Actions required## FW: Due 18 Oct 2019 - Management of drones

Hi Alan

As discussed we are reporting regularly on Drone (Quarterly) however it was pointed out that we haven't completed the asset number column. Please find below a list of the Drone that Scott has flagged for our region.

-Could you please provide the IST asset number that you have already in the system for them?

-Admin Support team - If you have any drone that hasn't been registered yet, could you please register the shell in SAP (or check with your area) so Alan can create the IST number?

Pease let me know when this is done as I will need to submit our Central Region response for Scott review and report on it on SharePoint soon.

Admin Support team - Can I please have your Responses by COB Friday 18 October 2019.

If you need extra time to do this task, please contact me directly.

Thanks everyone.

Karen Curtis
Corro Central Region Inbox
Central Region
Queensland Parks and Wildlife Service & Partnerships
Department of Environment and Science

P 07 4999 8531
Level 5, 44 Nelson Street, Mackay QLD 4740
Po Box 623, Mackay Qld 4740

Division	Unit	Responsible Officer	Description of Drone	Manufacturer	Make	Model	Serial No.	Barcode No.	Asset No.	Attachments / Peripherals / Extras	Weight	Payload Capacity	"Payload Sensors (type and cost)"	Storage Capacity	Software Requirements	Operator Requirements	Base drone cost	Cir at
QPWS and Partnerships	Central Region (Airlie Beach Management Unit)	Kim Finlay	Quad-copter	DJI	DJI	Phantom 4 Pro Obsidian	189CEAUBA20272		N/A	Stock Gimbal/Camera	1388g	Nil	Stock Gimbal/Camera	Micro SD Card	DJI GO 4	CASA ARN	2099	21
QPWS and Partnerships	Central Region (Fitzroy Management Unit)	Sam Richards	Quad-copter	DJI	DJI	Phantom 4 WM33IS	2018CMT ID. 2018AP1090			Standard camera								

QPWS and Partnerships	Central Region (Fitzroy Management Unit, Blackdown)	Carlin Burns	Quad-copter	DJI	Mavic Air	Mavic Air (M1P)	TBC			Standard camera	TBC	Nil	Standard camera	Micro SD Card	DJI GO 4	QPWS Internal Induction and Type training, in accordance with sub-2kg excluded RPA category requirements. Selected staff members internally inducted.	\$1,300	\$
QPWS and Partnerships	Central Region (Fitzroy Management Unit, Byfield)	Paul Harris	Quad-copter	DJI	DJI Phantom 4	Phantom 4 (WM330A)	"07DDD8S OB10242 SCCID - S53-GL3001510 IC-11805A-GL3001510"			4K, 12.4 megapixel, 1/2.3" CMOS sensor	1400g	Nil	4K, 12.4 megapixel, 1/2.3" CMOS sensor	Micro SD Card	DJI GO 4	QPWS Internal Induction and Type training, in accordance with sub-2kg excluded RPA category requirements. Selected staff members internally inducted.	\$1,600	\$
QPWS and Partnerships	Central Region (Fitzroy Management Unit, Rockhampton)	Scott Brook	Quad-copter	DJI	Spark (MM1A)	Spark (MM1A)	0ASDE7Q1C1000D1			2 - axis gimbal, 12 megapixel	300g	Nil	2 - axis gimbal, 12 megapixel	Micro SD Card	DJI GO 4	QPWS Internal Induction and Type training, in accordance with sub-2kg excluded RPA category requirements. Selected staff members internally inducted.	Approx \$900	A
QPWS and Partnerships	Central Region (Mackay Management Unit)	Eddie Adams	Quad-copter	DJI	MAVIC Pro (M1P)	MAVIC Pro (M1P)	unknown			4K, 12.71 megapixel, 1/2.3" CMOS sensor	750g	Nil	4K, 12.71 megapixel, 1/2.3" CMOS sensor	Micro SD Card	DJI GO 4	QPWS Internal Induction and Type training, in accordance with sub-2kg excluded RPA category requirements. Selected staff members internally inducted.	\$1,800	\$

KC note – 10/10/19

Checked with Jo / all Drone needs to be registered no matter value/drone

From: Corro QPWS Northern CR

Sent: Tuesday, 8 October 2019 3:23 PM

To: BROOK Scott

Cc: Corro QPWS Northern CR

Subject: FW: ##Additional Actions required## FW: Due Wednesday 16/10/2019 - Management of drones

Hi Scott,

-The SharePoint drone spreadsheet update was due when you were away and Anthony has ask Airlie to also add the latest one in the spreadsheet.

-Following QPWS update, we have been asked to fill out remaining information.

Do you have the information requested below & can I please have your response by next week Wednesday 16/10? If you don't have this info, please let me know asap.

Contact Officer and Asset Number of the drone.

Division	Unit	Responsible Officer	Description of Drone	Manufacturer	Make	Model	Serial No.	Barcode No.	Asset No.
QPWS and Partnerships	Central Region (Fitzroy Management Unit, Blackdown)	Carlin Burns	Quad-copter	DJI	Mavic Air	Mavic Air (M1P)	TBC		
QPWS and Partnerships	Central Region (Fitzroy Management Unit, Byfield)	Paul Harris	Quad-copter	DJI	DJI Phantom 4	Phantom 4 (WM330A)	"07DDD8S OB10242 SCCID - S53-GL3001510 IC- 11805A-GL3001510"		
QPWS and Partnerships	Central Region (Fitzroy Management Unit, Rockhampton)	Scott Brook	Quad-copter	DJI	Spark (MM1A)	Spark (MM1A)	0ASDE7Q1C1000D1		
QPWS and Partnerships	Central Region (Fitzroy Management Unit)	Sam Richards	Quad-copter	DJI	DJI Phantom 4	Phantom 4 WM33IS	2018CMT ID. 2018AP1090		
QPWS and Partnerships	Central Region (Mackay Management Unit)	Eddie???	Quad-copter	DJI	MAVIC Pro (M1P)	MAVIC Pro (M1P)	unknown		
QPWS and Partnerships	Central Region (Airlie Beach Management Unit)	Kim Finlay	Quad-copter	DJI	DJI	Phantom 4 Pro Obsidian	189CEAUBA20272		N/A

Happy to update in SharePoint.

Thanks

Karen

Corro Central Region Inbox

Central Region

Queensland Parks and Wildlife Service & Partnerships
Department of Environment and Science

P 07 4999 8531

Level 5, 44 Nelson Street, Mackay QLD 4740

Po Box 623, Mackay QLD 4740

Sent: Tuesday, 8 October 2019 2:54 PM
To: Corro QPWS Northern CR; Corro QPWS Northern NR
Cc: Corro DES QPWS Northern
Subject: ##Additional Actions required## FW: Due Monday 21st October 2019 - Management of drones

Hi All,

Regions recently updated the drone register.

We have been advised that there is some information missing, specifically:

- The columns that are missing info are: **C AND J**

Contact Officer and Asset Number of the drone.

Link to register is [here](#).

Please update and send a quick note to this corro box when you are done.

Advice Due back by **NOON Monday 21 October**.

thanks

Eleanor



Eleanor McDonnell
Executive Officer, Northern Parks and Forests
Management and Operations | QPWS & Partnerships
Department of Environment and Science

P 07 3199 7515 M **Personal in**
Level 5, 400 George Street, Brisbane QLD 4000
www.des.qld.gov.au

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From: Corro DES QPWS ADG <DESQPWSADG.Corro@des.qld.gov.au>

Sent: Tuesday, 8 October 2019 2:37 PM

To: Corro DES QPWS Northern; Corro DES QPWS GBRMC

Cc: Corro DES QPWS ADG

Subject: Due Monday 21st October 2019 - Management of drones

Hi Ntn and GBR

Lucy came and saw me and said that we are missing some information. As below note.

Not all the information has been inputted into below spreadsheet.

The columns that are missing info are: **C AND J**

Contact Officer and Asset Number of the drone.

She's given me to weeks to compile this.

If you can send out – I would like this back by say Monday 21st October.

Any questions, don't hesitate to contact moi !

Many thanks

Denise

From: THOMPSON Lucy

Sent: Friday, 4 October 2019 5:03 PM

To: Corro DES QPWS ADG <DESQPWSADG.Corro@des.qld.gov.au>

Subject: RE: Due cob 16 Sep 2019 - Management of drones

Hey Denise

I've just re-looked at this.

Defintily GBR, Central and Northern.

I'll come around and show you how I filtered.

Let me know when you have 5.

Lucy



Lucy Thompson
Manager, Executive Services
Office of the Deputy Director-General | QPWS and Partnerships
Department of Environment and Science

P 07 3330 6239 M **Personal in**
Level 5, 400 George St, Brisbane Qld 4000
PO Box 2454, Brisbane Qld 4001



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From: THOMPSON Lucy <Lucy.Thompson@des.qld.gov.au>

Sent: Monday, 9 September 2019 10:30 AM

To: CAMBOURN Neil; WEINERT Nick; KLAASSEN Ben; KENYON Kirstin; DELZOPPO Lindsay

Cc: HEAD Damien 19-211

File G

Page 73 of 112

Subject: RE: RE Management of drones in Marine Parks

Hey Everybody

Following on to this, Ben asked that I find the list of Drones that we have.

Please see link [here](#) to a departmental register of Drones, pilots and Divisional uses.

Lucy



From: BRUGMANN Tanja <Tanja.Brugmann@des.qld.gov.au>

Sent: Tuesday, 3 September 2019 3:28 PM

To: HEAD Damien

Subject: RE Management of drones in Marine Parks

GBRMPA guidelines below. We manage the State MP consistent with these guidelines:

Filming and photography guidelines including use of drones - <http://www.gbrmpa.gov.au/media-room/photography-filming-and-sound-recording-in-the-great-barrier-reef-marine-park>

Activity Guidelines including use of drones: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0012/248988/Recording-activity-assessment-guidelines.pdf

Refer to 18. AND 19.

Low impact recording:

Where using remotely operated vehicles (such as drones and ROVs):

- i. Aerial units weigh less than five (5) kilograms (including equipment).
- ii. Surface or submarine units weigh less than 25 kilograms (including equipment).
- iii. Aerial units do not operate within aircraft exclusion areas (see Location-specific assessment guidelines).
- iv. Units do not approach closer than:
 - a. 20 metre radius from marine turtles;
 - b. 30 metre radius from crocodiles;
 - c. 30 metre radius from dugongs;
 - d. 75 metre radius from seabirds.¹
- v. Requirements and guidelines under other legislation are adhered to, including:
 - a. For aerial units -- Civil Aviation Safety Authority (CASA)
 - b. For surface and submarine units -- Australian Maritime Safety Authority.

20. Recording which cannot comply with all of the above principles is likely to require GBRMPA's 20. permission.

Remotely operated and autonomous vehicles (drones, ROVs, AUVs, etc)

See the section on Low impact recording for guidance on remote/autonomous vehicle use that may not require permission.

25. If permission is required, the assessment considers the same matters as for general recording, and also:

- a. the purpose of the filming -- use of a drone that poses a greater risk (of a larger size or in a sensitive area) will generally only be considered if the filming will significantly enhance scientific understanding or public appreciation of the Marine Park
- b. any requests for landing(s)
- c. the operator's qualifications and experience, including their knowledge of the proposed location
- d. the risks posed by the device should it contact sensitive habitats or species or breach exclusion limits
- e. the risks posed by the device should it be lost (for example, whether the device may leach toxic chemicals).

Queensland considerations

26. In addition to GBRMPA's requirements, Queensland's Operational Policy on commercial filming and photography defines a 'major production' as 'commercial filming or photography activities that ...require more intensive management in order to keep impacts...within acceptable limits'.

Under this definition such activities generally involve: 'a crew of 10 or more people; and/or the use of significant infrastructure or equipment; and/or some level of exclusive occupation of a sites or sites ...for three days or more.'

27. Where the activity is proposed to be conducted partly in Queensland only jurisdiction (for example, island national parks and intertidal zones), it will usually be managed under a Commercial Activity Agreement negotiated between the State of Queensland and the proponent. In these cases, permission may still be required from GBRMPA for activities that are proposed to be undertaken in the Marine Park, in support of the terrestrial component. GBRMPA's assessment for such permissions would require consideration of the conditions imposed in the Commercial Activity Agreement to ensure any permission granted remains consistent with the relevant agreement.

Date : 9/05/2019 4:22:41 PM

From : "FLEISCHFRESSER Kim"

To : "Joseph Stapleton" , "SCOTT Naomi" , "RICHARDS Samuel"

Cc : "BERGMAN Bob"

Subject : RE: Follow up Drone Survey for Sandy Point

Attachment :

image001.png;image002.png;image003.png;image004.png;image005.png;image006.jpg;image007.png;image008.png;image009.png;image010.png;

Hi Joseph,

At this stage (and pending suitable flying weather), Sam is good for Monday, 20th of May if that suits you. Please contact Sam directly via email if you would like to coordinate a lift / specific time that is convenient.

Bob – you're welcome to attend if you wish to gain an appreciation of drone capability for this task and the extent to which FBA have assisted with weed management along the coast.

Thanks, Kim.

From: Joseph Stapleton <Joseph.Stapleton@fba.org.au>

Sent: Thursday, 9 May 2019 11:15 AM

To: SCOTT Naomi; FLEISCHFRESSER Kim; HARRIS Paul (Byfield)

Subject: RE: Follow up Drone Survey for Sandy Point

Just checking whether the drone survey is still fine for the second last week of May, and if so, what day of that week would work best for you?

Thanks,

Joseph Stapleton | Project Officer

Please note: My work hours are Monday to Thursday.

If you require my assistance or attendance at a meeting on a Friday, I encourage you to please let me know in advance.

Fitzroy Basin Association Inc. | ABN: 30 802 469 401

Phone: (07) 4999 2820 | Mobile: 4(6) Personal inform

joseph.stapleton@fba.org.au | www.fba.org.au

Level 1, 80 East Street | PO Box 139 | Rockhampton Q 4700

From: Joseph Stapleton

Sent: Thursday, 18 April 2019 10:56 AM

To: SCOTT Naomi <Naomi.Scott@des.qld.gov.au>; FLEISCHFRESSER Kim <Kim.Fleischfresser@des.qld.gov.au>; HARRIS Paul (Byfield) <Paul.Harris@des.qld.gov.au>

Subject: RE: Follow up Drone Survey for Sandy Point

Second last week of May should work fine for us, the dune erosion work should be finished or close to it by then.

Thanks,

Joseph Stapleton | Project Officer

Please note: My work hours are Monday to Thursday.

If you require my assistance or attendance at a meeting on a Friday, I encourage you to please let me know in advance.

Fitzroy Basin Association Inc. | ABN: 30 802 469 401

Phone: (07) 4999 2820 | Mobile: 4(6) Personal inform

joseph.stapleton@fba.org.au | www.fba.org.au

Level 1, 80 East Street | PO Box 139 | Rockhampton Q 4700

From: SCOTT Naomi <Naomi.Scott@des.qld.gov.au>

Sent: Monday, 15 April 2019 10:59 AM

To: FLEISCHFRESSER Kim <Kim.Fleischfresser@des.qld.gov.au>; HARRIS Paul (Byfield) <Paul.Harris@des.qld.gov.au>

Cc: Joseph Stapleton <Joseph.Stapleton@fba.org.au>

Subject: RE: Follow up Drone Survey for Sandy Point

Hi Kim,

The last week of May is not ideal for us but could possible fit something in the second last week.

Thanks

Naomi

From: FLEISCHFRESSER Kim <Kim.Fleischfresser@des.qld.gov.au>

Sent: Thursday, 11 April 2019 2:08 PM

To: HARRIS Paul (Byfield)

Cc: SCOTT Naomi; Joseph Stapleton

Subject: FW: Follow up Drone Survey for Sandy Point

Hi Paul and Naomi,

Is there a possibility to assist with this request, as per below. As Paul will be on rec leave then, it will likely require Sam's presence for the drone work.

Thanks, Kim

From: Joseph Stapleton <Joseph.Stapleton@fba.org.au>
Sent: Thursday, 11 April 2019 2:05 PM
To: FLEISCHFRESSER Kim
Subject: Follow up Drone Survey for Sandy Point

Hi Kim,

I was just checking if a follow up drone survey looks like it will be possible for sometime around the end of May.

Thanks,

Joseph Stapleton | Project Officer

Please note: My work hours are Monday to Thursday.

If you require my assistance or attendance at a meeting on a Friday, I encourage you to please let me know in advance.

Fitzroy Basin Association Inc. | ABN: 30 802 469 401

Phone: (07) 4999 2820 | **Mobile:** (6) Personal information

joseph.stapleton@fba.org.au | www.fba.org.au

Level 1, 80 East Street | PO Box 139 | Rockhampton Q 4700



BE GREEN: Please read from the screen.

Fitzroy Basin Association Inc. acknowledges the traditional custodians of the land and pay our respects to the Elders past, present and future, representing the traditional Aboriginal land across the Fitzroy Region.

Fitzroy Basin Association is the lead natural resource management body for central Queensland. Our mission is to empower our region with the resources, knowledge and skills to maintain our natural assets for future generations.

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Date : 8/05/2019 9:34:46 AM
From : "BROOK Scott"
To : "ASHDOWN Robert"
Cc : "HUGHES Diana" , "CONNOR Nathan"
Subject : RE: Interim procedure for drone use on national parks?
Attachment : image001.png;image002.png;

Hi Rob,

Big backlog. Just got to this.

No. Am still working on the staff use issue. There is a DES Drones Working Group however QPWS Division is somewhat tardy in their progress.

Would benefit from regions pushing the need for a "recreational use" position.

Inevitably we will get to the point of a formal stance on recreational use. Would be good to keep in mind the appropriate people that should be included in the QPWS Visitor Managers reference group for internal consultation.

Cheers
Scott

From: ASHDOWN Robert <Robert.Ashdown@des.qld.gov.au>
Sent: Monday, 1 April 2019 10:16 AM
To: BROOK Scott; HUGHES Diana
Subject: Interim procedure for drone use on national parks?

Hi Scott and Diana

Has there been any current interim procedures or guidelines developed for public use of drones/UAVs on Qld national park estate?

Any advice appreciated.

Cheers and thanks



Robert Ashdown

Senior Ranger (Visitor Management)

South West Region, Queensland Parks and Wildlife Service & Partnerships
Department of Environment and Science

P (07) 4529 8310 M (6) Personal infor

Level 1, 146 Herries Street/PO Box 1442
Toowoomba QLD 4350

Date : 5/08/2019 2:27:18 PM

From : "BROOK Scott"

To : "JONES Cameron"

Cc : "LAWRENCE Paul" , "DELZOPPO Lindsay" , "GLOSKO Brett"

Subject : RE: QPWS Drones Policy Work

Attachment : RPAS Interim Proposal (FSI Project) 1.4.xlsx;DRAFT CR Drone SOP.docx;Draft risk assessment for RPA.docx;RPA FLIGHT LOGBOOK.docx;DRAFT Senior Ranger - Operator approval checklist and record.docx;image001.png;image003.png;image004.png;image006.png;image007.png;image009.png;

Hi Cameron,

Have attached some of the stuff that I did (for NPSR) back in 2017.

The excel workbook was (at the time) considered to be a Remote Piloted Aircraft Management System (RPAS) that NPSR would adopt prior to full strategy and procedure development, which Dianna Hughes was working on. It is heavily focussed on the use of "excluded" drones by rangers so was built on the following assumptions;

1. The project was to enable drones to be used as portable fire towers, that would provide situational awareness (safety) on fire operations.
2. NPSR management needed comfort that we had appropriate governance in place.
3. A cost benefit analysis, the second sheet, was to help justify to execs the value of these drones that were at the time, very much considered to be toys.
4. The governance tool interface (the excel format) with users (rangers) needed to be simple but convey the necessary information such as;
 - a. Advice on options when purchasing. Including some sort of suitability checklist. Procurement guidelines (not finished).
 - b. How we would address competency.
 - c. Risk management.
 - d. Statements of approved use, that the user understood had been preapproved by NPSR-EMG.
 - e. The ToR for a Drone Advisory Group (also never finished but now functioning as the DES drones Working Group).

The MS Word documents are fairly self-explanatory. They were developed by Richard Orchard in Moreton Bay Marine. We stole his work and adopted it here in CR as our 'interim governance'. It is generally being followed but in Northern Parks and Forests (Central and Northern Regions) the supervisory responsibility has been delegated to Principal Rangers. I'm unaware of their intimate understanding of this.

Another source of draft governance material would be Lindsay Delzoppo from QPWS Wildlife branch. They have developed their own governance as well. It sort of sits half way between what I wanted to achieve for field rangers and what Brett is doing with ReOC.

Hope this helps. Happy to discuss any issues.

Regards

Scott Brook

A/Assistant Principal Ranger

Central Region.

Department of Environment and Science

P 07 4936 0105 M p4(6) Personal inform



61 Yeppon Rd, Nth Rockhampton
PO Box 3130, Nth Rockhampton 4701

From: JONES Cameron <Cameron.Jones@des.qld.gov.au>
Sent: Friday, 2 August 2019 8:30 AM
To: LAWRENCE Paul; BROOK Scott; Drones Working Group DES
Subject: FW: QPWS Drones Policy Work

Hi All

Please see the below email from Rebecca FYI. I will add all these documents to the sharepoint/Teams. As discussed I can look into compiling a procedure/policy using these documents and the others we have sourced from DAF etc.

Scott as mentioned below do you have any draft SOPs or risk assessments?

Cheers



Cameron Jones
Senior Policy Officer, Digital Futures and Ventures
Digital and Information Services, Science and Technology
Department of Environment and Science
Ph: 07 3199 7599
GA East, Ecosciences Precinct
41 Boggo Road, Dutton Park QLD 4102

From: BATTON Rebecca
Sent: Thursday, 1 August 2019 4:50 PM
To: JONES Cameron
Subject: RE: QPWS Drones Policy Work

Hi Cameron

As discussed, here is some of the background policy work done in this team by Diana Hughes last year. This discussion paper outlines the key issues for use of drones on park, primarily from a recreational use perspective.

I have also attached our standard position on recreational drone use on park.

In my travels through the files I also came across some draft SOPs and risk assessments on QPWS use of drones. It looks like Scott Brooks was working on these so best speak to him for the latest.

I am also working on a review of the Nature Conservation (Protected Areas Management) Regulation, and there is potential for

some clarification around drone use on park as part of that process. I will let you know how it progresses.

Cheers, Bec



Rebecca Batton

Senior Policy Officer

**Parks and Forests Policy | Protected Area Strategy and Policy
QPWS & Partnerships**

Department of Environment and Science

P 07 3199 7259

Level 4, 400 George Street, Brisbane QLD 4000

PO Box 15187, City East QLD 4001

Monday - Wednesday - West Burleigh; Thursday & Friday - Brisbane

Workgroup inbox: parkspolicy@des.qld.gov.au

From: TRSTENJAK David <David.Trstenjak@des.qld.gov.au>

Sent: Thursday, 1 August 2019 2:38 PM

To: JONES Cameron; BATTON Rebecca

Subject: RE: QPWS Drones Policy Work

Hi Cameron,

Yes – Tige mentioned your call, but then I didn't write it down and forgot – sorry!

I just have to listen into Minister Fentiman's estimates debate in case anything comes up for Moreton Island or Stradbroke Island.

Bec – can you please look at what was done previous by Diana to see if there is anything that may be useful for Cameron.

Thanks



David Trstenjak

A/Manager

**Parks and Forests Policy | Protected Area Strategy and Policy
Protected Area Strategy & Investment | QPWS & Partnerships**

Department of Environment and Science

P 07 3199 7576 | E David.Trstenjak@des.qld.gov.au

Level 4, 400 George St, Brisbane

PO Box 15187, City East QLD 4002

From: JONES Cameron <Cameron.Jones@des.qld.gov.au>

Sent: Thursday, 1 August 2019 2:05 PM

To: TRSTENJAK David

Cc: Drones Working Group DES

Subject: QPWS Drones Policy Work

Hi David

I work as the secretariat on the DES Drones working group (chaired by Paul Lawrence and sponsored by Ben Klaassen) and was given Todd Kelly's name in regards to some previous policy work conducted regarding drones in association with Scott Brook. Todd's phone was forwarded to yours and yesterday I spoke with one of your team members about accessing some information on the work that had been conducted, and any resources you would be able to share. Currently the working group I am on is looking into developing a DES wide drones policy, and we would love to investigate what work was already started in this space. If you could please give me a call to discuss that would be greatly appreciated.

Kind regards



Cameron Jones

Senior Policy Officer, Digital Futures and Ventures

Digital and Information Services, Science and Technology

Department of Environment and Science

Ph: 07 3199 7599

GA East, Ecosciences Precinct

41 Boggo Road, Dutton Park QLD 4102

Date : 3/12/2019 1:26:41 PM
From : "GLOSKO Brett"
To : "BROOK Scott" , "NOLAN Barry" , "RICH Maree" , "AUGUSTEYN John"
Cc : "CONNOR Nathan"
Subject : RE: TC and drones
Attachment : image001.png;image006.png;image004.png;image005.png;
Hi all,

As a quick F.Y.I., the current DES ReOC has night ops included, however the pilot would need to be included under the ReOC, be trained and approved by me for night ops.

Down side is that anyone under the ReOC has to remain under the ReOC for all flights ongoing. Can't chop and change between excluded and ReOC.

BVLOS is not something easily achieved for anyone at present. As I currently understand it, the pilot would need to hold a manned aviation instrument rating to achieve this.



Brett Glosko
Program Manager & Chief Remote Pilot
Remotely Piloted Aircraft Systems
Department of Environment and Science

P 07 5626 6840 M (6) Personal info
ARN 1057139
Level 1, APVC Building, 14 Edgewater Court, Robina, Gold Coast QLD 4226
PO Box 4244, Robina QLD 4230

From: BROOK Scott <Scott.Brook@des.qld.gov.au>
Sent: Tuesday, 3 December 2019 12:01 PM
To: NOLAN Barry; RICH Maree; AUGUSTEYN John
Cc: GLOSKO Brett; CONNOR Nathan
Subject: RE: TC and drones

Yeah, would be a contractor with a night flying exemption on their ReOC.

Another good argument for QPWS to get their act together and establish policy that aligns with ReOC and the necessary exemptions of beyond line of sight and night flying.

<https://www.australianwildlife.org/faure-drones/>

From: NOLAN Barry <Barry.Nolan@des.qld.gov.au>
Sent: Monday, 2 December 2019 2:41 PM
To: AUGUSTEYN John; RICH Maree
Cc: BROOK Scott
Subject: RE: TC and drones

From what I can see they are using a commercial company who have a licenced operator for WA, but would need to confirm that is the case?



Barry Nolan
Senior Ranger – Pest Management
Technical Support Central Region
Queensland Parks and Wildlife Service
Department of Environment and Science
P 07 49625211 Ext 35211 Mb (6) Personal info
Cnr Mandalay and Shute Harbour Rds, Airlie
Beach
PO Box 5332, Airlie Beach, 4802



From: AUGUSTEYN John <John.Augusteyn@des.qld.gov.au>
Sent: Monday, 2 December 2019 11:16 AM
To: NOLAN Barry; RICH Maree
Cc: BROOK Scott
Subject: TC and drones

Wonder if CASA have relaxed their rules regarding the use of drones at night.

<https://www.australianwildlife.org/faure-drones/>

Published on DES Disclosure Log
RTI Act 2009

Date : 5/12/2019 12:29:02 PM

From : "AUGUSTEYN John"

To : "RICH Maree"

Subject : RE: TIC at ADNP in 2020

Attachment : image001.png;image003.png;

David Field is hoping to use a TC on a drone as part of an innovation submission. Was hoping to dovetail it in with BN and us if possible.

Would be good to record bilbies response to our presence.

From: RICH Maree <Maree.Rich@des.qld.gov.au>

Sent: Thursday, 5 December 2019 12:14 PM

To: AUGUSTEYN John

Cc: NOLAN Barry

Subject: RE: TIC at ADNP in 2020

Right then. Sorry about that.

We'll just need to work out if we want to overlap with the end of the SSAA trip of just go the week after they leave.... I will just block out the 27 May to the end of the first week of June for now.

ta

Maree Rich

Conservation Officer - Pest Management

Central Region | Technical Support

Queensland Parks and Wildlife Service

Department of Environment and Science

.....
P 07 4536 8395

Landsborough Highway, Longreach

PO Box 202, Longreach, 4730

From: AUGUSTEYN John <John.Augusteyn@des.qld.gov.au>

Sent: Thursday, 5 December 2019 12:03 PM

To: RICH Maree

Subject: RE: TIC at ADNP in 2020

It's a cave managers conference at Jenolan Caves.

Not if I can avoid it.

From: RICH Maree <Maree.Rich@des.qld.gov.au>

Sent: Thursday, 5 December 2019 12:02 PM

To: AUGUSTEYN John

Subject: RE: TIC at ADNP in 2020

Oh, that's very organised of you. Which conference is it?

I will recheck with Lachlan is his dates are concrete.... But you probably don't want to go away the week after the conference either?

Maree Rich

Conservation Officer - Pest Management

Central Region | Technical Support

Queensland Parks and Wildlife Service

Department of Environment and Science

.....
P 07 4536 8395

Landsborough Highway, Longreach

PO Box 202, Longreach, 4730

From: AUGUSTEYN John <John.Augusteyn@des.qld.gov.au>

Sent: Thursday, 5 December 2019 11:54 AM

To: RICH Maree

Subject: RE: TIC at ADNP in 2020

Bugger

I'm going to a conference from the 2nd – 9th May.

Might have to be June again.

From: RICH Maree <Maree.Rich@des.qld.gov.au>

Sent: Thursday, 5 December 2019 11:48 AM

To: AUGUSTEYN John

Subject: TIC at ADNP in 2020

John

I don't know if I told you so I thought I would email you... L has been filling up his calendar in May next year so I have had to nominate a week that we would work towards for the TIC in 2020, otherwise I won't have any opportunity left. I hope that will be okay?

I am proposing 4-10 May.... I think that is after [redacted] sch4p4(6) Personal information

[redacted] sch4p4(6) Personal information

[redacted] sch4p4(6) Personal information June 2020, at this stage, is free of commitments for L.

Anyway, let me know what you think.

Ta

m



Maree Rich
Conservation Officer - Pest Management
Central Region | Technical Support
Queensland Parks and Wildlife Service
Department of Environment and Science

.....
P 07 4536 8395
Landsborough Highway, Longreach
PO Box 202, Longreach, 4730

Part time – Monday, Tuesday, Wednesday, Thursday

Date : 14/10/2019 8:08:06 AM
From : "MACINTYRE Diane"
To : "BECKMAN Alan" , "Corro QPWS Northern CR" , "LANCASTER Stacey" , "Central Tech Support Admin"
Cc : "BROOK Scott" , "STAUNTON Jo"
Subject : RE: Due 18 Oct 2019 - ##Additional Actions required## FW: Due 18 Oct 2019 - Management of drones
Attachment : image001.png;image002.png;image003.png;image004.png;image005.png;image007.jpg;image008.png;image009.png;image010.jpg;

Hi everyone,

In case you aren't aware, the AST numbers from Loc8 are actually Inventory Numbers, or the old barcode numbers. Asset numbers from SAP start with 2401. I'll create the asset shell in SAP for the Conway drone once I can get the invoice for it.

Cheers. Diane



Diane Macintyre
Area Administration Officer
Central West I Central Region
Queensland Parks and Wildlife Service & Partnerships
Department of Environment and Science
P 07 4796 7778
Level 10, 445 Flinders Street, Townsville
PO Box 5597, Townsville Qld 4810

From: BECKMAN Alan <Alan.Beckman@des.qld.gov.au>
Sent: Friday, 11 October 2019 4:17 PM
To: Corro QPWS Northern CR; LANCASTER Stacey; MACINTYRE Diane; Central Tech Support Admin
Cc: BROOK Scott; STAUNTON Jo
Subject: RE: Due 18 Oct 2019 - ##Additional Actions required## FW: Due 18 Oct 2019 - Management of drones

Hi Karen,

There are 7 Drones within Central Region, have created the Asset numbers in Loc8 and entered all available information in to Loc8 (see below).

Location	Asset - ID	Name	Make	Model	Serial No.	Attachments	Maintainer Name
Clermont	AST-0059937	Drone - DJI Platinum Mavic Pro	DJI Mavic Pro	Mavic Pro (M1P)	08QCF9KP1246DK	Standard camera	Caleb Bailey
Mackay	AST-0059939	Drone - DJI Mavic Pro	DJI Mavic Pro	Mavic Pro (M1P)	08QUE4F001054D	4k,12.71 megapixel 1/2.3" CMOS sensor	Edward Adams
Blackdown	AST-0060415	Drone - DJI Mavic Air	Mavic Air	Mavic Air (M1P)	TBC	Standard Camera	Carlin Burns
Conway NP	AST-0060417	Drone - DJI Phantom 4	DJI	Phantom 4 Pro Obsidian	189CEAUBA20272	Stock Gimbal / camera	Kim Finlay
Parkhurst	AST-0060418	Drone - DJI Phantom 4 - Quad-copter	DJI	Phantom 4 WM33IS	2018CMIT ID. 2018AP1090	Standard Camera	Samuel Richards
Byfield	AST-0060419	Drone - DJI Phantom 4 - Quad-copter	DJI - Phantom 4	Phantom 4 (WM330A)	"070DD85 OB10242 - SSE- GL30001510 IC-11805A	4K,12.4 megapixel, 1/2.3" CMOS sensor	Paul Harris
Parkhurst	AST-0060420	Drone - DJI Quad-copter	DJI Spark (MM1A)	Spark (MM1A)	OASDE7Q1C1000D1	2-axis gimbal, 12 megapixel	Scott Brook

Hope the above is what you are after.

Regards
Alan

From: Corro QPWS Northern CR <QPWSnorthernCR.Corro@des.qld.gov.au>
Sent: Thursday, 10 October 2019 3:34 PM
To: BECKMAN Alan; LANCASTER Stacey; MACINTYRE Diane; Central Tech Support Admin
Cc: BROOK Scott; STAUNTON Jo; Corro QPWS Northern CR
Subject: Due 18 Oct 2019 - ##Additional Actions required## FW: Due 18 Oct 2019 - Management of drones

Hi Alan

As discussed we are reporting regularly on Drone (Quarterly) however it was pointed out that we haven't completed the asset number column. Please find below a list of the Drone that Scott has flagged for our region.

-Could you please provide the IST asset number that you have already in the system for them?

Admin Support team – If you have any drone that hasn't been registered yet, could you please register the shell in SAP (or check with your area) so Alan can create the IST number?

Pease let me know when this is done as I will need to submit our Central Region response for Scott review and report on it on SharePoint soon.

Admin Support team - Can I please have your Responses by COB Friday 18 October 2019.

If you need extra time to do this task, please contact me directly.

Thanks everyone.

Karen Curtis
Corro Central Region Inbox
Central Region
Queensland Parks and Wildlife Service & Partnerships
Department of Environment and Science
P 07 4999 8531
Level 5, 44 Nelson Street, Mackay QLD 4740
PO Box 623, Mackay QLD 4740

Division	Unit	Responsible Officer	Description of Drone	Manufacturer	Make	Model	Serial No.	Barcode No.	Asset No.	Attachments / Peripherals / Extras	Weight	Payload Capacity	"Payload Sensors (type and cost)"	Storage Capacity	Software Requirements	Operator Requirements	Base drone cost	Cir at
QPWS and Partnerships	Central Region (Airlie Beach Management Unit)	Kim Finlay	Quad-copter	DJI	DJI	Phantom 4 Pro Obsidian	189CEAUBA20272		N/A	Stock Gimbal/Camera	1388g	Nil	Stock Gimbal/Camera	Micro SD Card	DJI GO 4	CASA ARN	2099	2
QPWS and Partnerships	Central Region (Fitzroy Management Unit)	Sam Richards	Quad-copter	DJI	DJI Phantom 4	Phantom 4 WM33IS	2018CMIT ID. 2018AP1090			Standard camera								
QPWS and Partnerships	Central Region (Fitzroy Management Unit, Blackdown)	Carlin Burns	Quad-copter	DJI	Mavic Air	Mavic Air (M1P)	TBC			Standard camera	TBC	Nil	Standard camera	Micro SD Card	DJI GO 4	QPWS Internal Induction and Type training, in accordance with sub-2kg excluded RPA category requirements. Selected staff members internally inducted.	\$1,300	\$
19-211								File G										

QPWS and Partnerships	Central Region (Fitzroy Management Unit, Byfield)	Paul Harris	Quad-copter	DJI	DJI Phantom 4	Phantom 4 (WM330A)	"07DDD8S OB10242 SCCID - S53-GL3001510 IC-11805A-GL3001510"			4K, 12.4 megapixel, 1/2.3" CMOS sensor	1400g	Nil	4K, 12.4 megapixel, 1/2.3" CMOS sensor	Micro SD Card	DJI GO 4	Internal Induction and Type training, in accordance with sub-2kg excluded RPA category requirements. Selected staff members internally inducted.	\$1,600	\$
QPWS and Partnerships	Central Region (Fitzroy Management Unit, Rockhampton)	Scott Brook	Quad-copter	DJI	Spark (MM1A)	Spark (MM1A)	0ASDE7Q1C1000D1			2 - axis gimbal, 12 megapixel	300g	Nil	2 - axis gimbal, 12 megapixel	Micro SD Card	DJI GO 4	QPWS Internal Induction and Type training, in accordance with sub-2kg excluded RPA category requirements. Selected staff members internally inducted.	Approx \$900	A
QPWS and Partnerships	Central Region (Mackay Management Unit)	Eddie Adams	Quad-copter	DJI	MAVIC Pro (M1P)	MAVIC Pro (M1P)	unknown			4K, 12.71 megapixel, 1/2.3" CMOS sensor	750g	Nil	4K, 12.71 megapixel, 1/2.3" CMOS sensor	Micro SD Card	DJI GO 4	QPWS Internal Induction and Type training, in accordance with sub-2kg excluded RPA category requirements. Selected staff members internally inducted.	\$1,800	\$

KC note – 10/10/19

Checked with Jo / all Drone needs to be registered no matter value/drone

From: Corro QPWS Northern CR

Sent: Tuesday, 8 October 2019 3:23 PM

To: BROOK Scott

Cc: Corro QPWS Northern CR

Subject: FW: ##Additional Actions required## FW: Due Wednesday 16/10/2019 - Management of drones

Hi Scott,

-The SharePoint drone spreadsheet update was due when you were away and Anthony has ask Airlie to also add the latest one in the spreadsheet.

-Following QPWS update, we have been asked to fill out remaining information.

Do you have the information requested below & can I please have your response by next week Wednesday 16/10? If you don't have this info, please let me know asap.

Contact Officer and Asset Number of the drone.

Division	Unit	Responsible Officer	Description of Drone	Manufacturer	Make	Model	Serial No.	Barcode No.	Asset No.
QPWS and Partnerships	Central Region (Fitzroy Management Unit, Blackdown)	Carlin Burns	Quad-copter	DJI	Mavic Air	Mavic Air (M1P)	TBC		
QPWS and Partnerships	Central Region (Fitzroy Management Unit, Byfield)	Paul Harris	Quad-copter	DJI	DJI Phantom 4	Phantom 4 (WM330A)	"07DDD8S OB10242 SCCID - S53-GL3001510 IC- 11805A-GL3001510"		
QPWS and Partnerships	Central Region (Fitzroy Management Unit, Rockhampton)	Scott Brook	Quad-copter	DJI	Spark (MM1A)	Spark (MM1A)	0ASDE7Q1C1000D1		
QPWS and Partnerships	Central Region (Fitzroy Management Unit)	Sam Richards	Quad-copter	DJI	DJI Phantom 4	Phantom 4 WM331S	2018CMIT ID. 2018AP1090		
QPWS and Partnerships	Central Region (Mackay Management Unit)	Eddie???	Quad-copter	DJI	MAVIC Pro (M1P)	MAVIC Pro (M1P)	unknown		
QPWS and Partnerships	Central Region (Airlie Beach Management Unit)	Kim Finlay	Quad-copter	DJI	DJI	Phantom 4 Pro Obsidian	189CEAUBA20272		N/A

Happy to update in SharePoint.

Thanks

Karen

Corro Central Region Inbox

Central Region

Queensland Parks and Wildlife Service & Partnerships

Department of Environment and Science

P 07 4999 8531

Level 5, 44 Nelson Street, Mackay QLD 4740

Po Box 623, Mackay Qld 4740

From: MCDONNELL Eleanor On Behalf Of Corro DES QPWS Northern

Sent: Tuesday, 8 October 2019 2:54 PM

To: Corro QPWS Northern CR; Corro QPWS Northern NR

Cc: Corro DES QPWS Northern

Subject: ##Additional Actions required## FW: Due Monday 21st October 2019 - Management of drones

Hi All,

Regions recently updated the drone register.

We have been advised that there is some information missing, specifically:

- The columns that are missing info are: **C AND J**

Contact Officer and Asset Number of the drone.

Link to register is [here](#)

Please update and send a quick note to this corro box when you are done.

Advice Due back by **NOON Monday 21 October**.

thanks

Eleanor



Eleanor McDonnell
Executive Officer, Northern Parks and Forests
Management and Operations | QPWS & Partnerships
Department of Environment and Science

P 07 3199 7515 M **(6) Personal info**
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www.des.qld.gov.au

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Australia



From: Corro DES QPWS ADG <DESQPWSADG.Corro@des.qld.gov.au>

Sent: Tuesday, 8 October 2019 2:37 PM

To: Corro DES QPWS Northern; Corro DES QPWS GBRMC

Cc: Corro DES QPWS ADG

Subject: Due Monday 21st October 2019 - Management of drones

Hi Ntn and GBR

Lucy came and saw me and said that we are missing some information. As below note.

Not all the information has been inputted into below spreadsheet.

The columns that are missing info are: **C AND J**

Contact Officer and Asset Number of the drone.

She's given me to weeks to compile this.

If you can send out – I would like this back by say Monday 21st October.

Any questions, don't hesitate to contact moi !

Many thanks

Denise

From: THOMPSON Lucy

Sent: Friday, 4 October 2019 5:03 PM

To: Corro DES QPWS ADG <DESQPWSADG.Corro@des.qld.gov.au>

Subject: RE: Due cob 16 Sep 2019 - Management of drones

Hey Denise

I've just re-looked at this.

Defintily GBR, Central and Northern.

I'll come around and show you how I filtered.

Let me know when you have 5.

Lucy



Lucy Thompson
Manager, Executive Services
Office of the Deputy Director-General | QPWS and Partnerships
Department of Environment and Science

P 07 3330 6239 M **(6) Personal info**
Level 5, 400 George St, Brisbane Qld 4000
PO Box 2454, Brisbane Qld 4001



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From: THOMPSON Lucy <Lucy.Thompson@des.qld.gov.au>

Sent: Monday, 9 September 2019 10:30 AM

To: CAMBOURN Neil; WEINERT Nick; KLAASSEN Ben; KENYON Kirstin; DELZOPPO Lindsay

Cc: HEAD Damien

Subject: RE: RE Management of drones in Marine Parks

Hey Everybody

Following on to this, Ben asked that I find the list of Drones that we have.

Please see link [here](#) to a departmental register of Drones, pilots and Divisional uses.

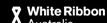
Lucy



Lucy Thompson
Manager, Executive Services
Office of the Deputy Director-General | QPWS and Partnerships
Department of Environment and Science
P 07 3330 6239 M **Personal** **id**
Level 5, 400 George St, Brisbane Qld 4000
PO Box 2454, Brisbane Qld 4001



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From: BRUGMANN Tanja <Tanja.Brugmann@des.qld.gov.au>

Sent: Tuesday, 3 September 2019 3:28 PM

To: HEAD Damien

Subject: RE Management of drones in Marine Parks

GBRMPA guidelines below. We manage the State MP consistent with these guidelines:

Filming and photography guidelines including use of drones - <http://www.gbrmpa.gov.au/media-room/photography-filming-and-sound-recording-in-the-great-barrier-reef-marine-park>

Activity Guidelines including use of drones: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0012/248988/Recording-activity-assessment-guidelines.pdf

Refer to 18. AND 19.

Low impact recording:

Where using remotely operated vehicles (such as drones and ROVs):

- i. Aerial units weigh less than five (5) kilograms (including equipment).
- ii. Surface or submarine units weigh less than 25 kilograms (including equipment).
- iii. Aerial units do not operate within aircraft exclusion areas (see Location-specific assessment guidelines).
- iv. Units do not approach closer than:
 - a. 20 metre radius from marine turtles;
 - b. 30 metre radius from crocodiles;
 - c. 30 metre radius from dugongs;
 - d. 75 metre radius from seabirds.¹
- v. Requirements and guidelines under other legislation are adhered to, including:
 - a. For aerial units -- Civil Aviation Safety Authority (CASA)
 - b. For surface and submarine units -- Australian Maritime Safety Authority.

20. Recording which cannot comply with all of the above principles is likely to require GBRMPA's 20. permission.

Remotely operated and autonomous vehicles (drones, ROVs, AUVs, etc)

See the section on Low impact recording for guidance on remote/autonomous vehicle use that may not require permission.

25. If permission is required, the assessment considers the same matters as for general recording, and also:

- a. the purpose of the filming -- use of a drone that poses a greater risk (of a larger size or in a sensitive area) will generally only be considered if the filming will significantly enhance scientific understanding or public appreciation of the Marine Park
- b. any requests for landing(s)
- c. the operator's qualifications and experience, including their knowledge of the proposed location
- d. the risks posed by the device should it contact sensitive habitats or species or breach exclusion limits
- e. the risks posed by the device should it be lost (for example, whether the device may leach toxic chemicals).

Queensland considerations

26. In addition to GBRMPA's requirements, Queensland's Operational Policy on commercial filming and photography defines a 'major production' as 'commercial filming or photography activities that ...require more intensive management in order to keep impacts...within acceptable limits'.

Under this definition such activities generally involve: 'a crew of 10 or more people; and/or the use of significant infrastructure or equipment; and/or some level of exclusive occupation of a sites or sites ...for three days or more.'

27. Where the activity is proposed to be conducted partly in Queensland only jurisdiction (for example, island national parks and intertidal zones), it will usually be managed under a Commercial Activity Agreement negotiated between the State of Queensland and the proponent. In these cases, permission may still be required from GBRMPA for activities that are proposed to be undertaken in the Marine Park, in support of the terrestrial component. GBRMPA's assessment for such permissions would require consideration of the conditions imposed in the Commercial Activity Agreement to ensure any permission granted remains consistent with the relevant agreement.

Date : 9/01/2019 11:40:44 AM
From : "CONTARINO Anthony"
To : "MCLAUGHLIN Marty"
Cc : "MOORE Peter" , "JESS Sarah" , "BROOK Scott" , "Corro QPWS Northern CR"
Subject : RE: Action: DISC – Drones Working Group etc
Attachment : image002.png;image007.jpg;image008.png;image001.png;image004.png;

My only comment is that if drones are this useful for observing fires and making decisions, the \$1800 for remote pilot training would surely be recouped by not having to put helicopters in the air as frequently and being able to make better and safer decisions around fire operations (not as easy to quantify). I don't think we should be too worried if there is a requirement for this training and we should be flexible to use qualified drone operators (contractors) as well. We just trained a bunch of staff as aerial incendiary operators based on policy requirements (cost a LOT of money). I think it will make us think very carefully about who operates drones and what they operate them for. The training will also protect the drone operator.

Agree that there needs to be adequate QPWS representation.

Will the Chief Remote Pilot be able to put that in their signature block??

I'll send through an endorsement for feedback separately.



Anthony Contarino
A/Regional Director,
Central Region I Queensland Parks and Wildlife Service
Department of Environment and Science

P 07 47967784

M p4(6) Personal inform

Level 10, 445 Flinders Street, Townsville Qld 4810
PO Box 5597, Townsville Qld 4810

From: MCLAUGHLIN Marty

Sent: Wednesday, 9 January 2019 11:21 AM

To: CONTARINO Anthony <Anthony.Contarino@des.qld.gov.au>

Cc: MOORE Peter <Peter.Moore@des.qld.gov.au>; JESS Sarah <Sarah.Jess@des.qld.gov.au>; BROOK Scott <Scott.Brook@des.qld.gov.au>; Corro QPWS Northern CR <QPWSnorthernCR.Corro@des.qld.gov.au>

Subject: FW: Action: DISC – Drones Working Group etc

Recommendation

The Regional Director endorses the attached feedback on the draft Queensland Government Drone Use Policy (QGDUP) which in summary recommends:

- QPWS endorse the draft policy and raise no concern as drafted; and
- QPWS ensure adequate representation and input into the development of Departmental policy and procedure for drone use for operational purposes.

Background

The Queensland Drones Strategy (QDS), released in 2018, has a vision for Queensland to be a world leader in drone technology and application.

The QDS prescribed the Department of Transport and Main Roads to be the lead agency in the development of an internal drones use policy. The Draft Queensland Government Drones Use Policy (QGDUP) is the result of that action.

The draft QGDUP provides guidance on the use of drones by Queensland Government agencies and employees.

The purpose of the draft QGDUP is to provide Queensland Government agencies with a high-level policy framework to guide the basic requirements of drone use including operations, safety, data collection and security, information management and procurement.

Next Step

If endorsed this recommendation and the attached feedback form are forwarded to ED QPWS NPF for endorsement prior to forwarding to Gaynor Simonds and Adam Cradick.

Marty McLaughlin
Principal Ranger (Central Region)
Department of Environment and Science
19-211

Phone: (07) 4796 7790

Mobile: 34(6) Personal inform

Email to: marty.mclaughlin@des.qld.gov.au

Visit us online at www.des.qld.gov.au

From: BROOK Scott

Sent: Tuesday, 8 January 2019 5:26 PM

To: MCLAUGHLIN Marty; HOLLOWAY Ian; DOLLERY Colin

Cc: HARGREAVES Jack

Subject: FW: Action: DISC ♦ Drones Working Group etc

Hello,

Please find attached my proposed feedback on the Queensland Government Drones Use Policy. The attachments are as follows;

- **DRAFT QGDUP v.3.9.pdf**; the draft policy.
- **Drones DISC Pack.pdf**; some additional information indicating where DES is sitting refgards drone use but not subject of the feedback process.
- **SME Group Feedback Template v.1.doc**; my proposed response. I ♦ve included some background points to inform RD / ED.

I have found that there is no conflict between the proposed policy and how we operate here in Central. Ian or Col are you able to confirm for N region? Col I note that Ian is away 18 days ♦

There is risk involved with the next step; development of a DES procedure. To counter this risk, we should provide representation to the DES Drone User Group who will advise on the procedure development. Noting ED has endorsed Col and myself for this task.

Marty, can you pls advise / discuss any changes / format etc?

Regards



Scott Brook

A/Principal Ranger

Central Region.

Department of Environment and Science

P 07 4936 0105 M 34(6) Personal inform

61 Yeppon Rd, Nth Rockhampton

PO Box 3130, Nth Rockhampton 4701

From: CRADICK Adam

Sent: Tuesday, 18 December 2018 11:35 AM

To: AMATT Rosie <Rosie.Amatt@des.qld.gov.au>; EGAN Sally <Sally.Egan@des.qld.gov.au>; NEWMAN James

<James.Newman@des.qld.gov.au>; HEAD Damien <Damien.Head@des.qld.gov.au>; BRITTINGHAM Geoff

<Geoff.Brittingham@des.qld.gov.au>; MARANO Nat <Nat.Marano@des.qld.gov.au>; LOSADA Vanessa <Vanessa.Losada@des.qld.gov.au>;

KLAASSEN Ben <Ben.Klaassen@des.qld.gov.au>; DEVERY Michael <Michael.Devery@des.qld.gov.au>

Subject: Action: DISC ♦ Drones Working Group etc

Hi Everyone,

(Mike - I have also sent to you in your role ♦ given the concept brief is about the implementation of UAV Technology in Compliance)

1. **At DISC on 12 December 2018, the ♦Drones DISC Pack♦ was considered by DISC.** (See Drones DISC Pack which I have scanned, don♦t worry about my scribbles). As you are aware, there is a requirement for an agency UAV / drone capability, to develop of effective compliance strategies for various parts of the agency. This kind of capability brings new methods of providing evidence for levy prosecution cases, which the DG is apparently keen to see progress. In September 2018 DISC supported the Technical Note submission to progress to the DG approval. It was raised that the submission may not have disclosed DISC♦s concerns around how the agency would need to address the use of drones on public land as a policy. DISC:

- ♦ approved the concept brief granting project mandate;
- ♦ approved the creation of DISC drones working group that includes remit for UAV/Drone topics such as policy, standards, governance and use;
- ♦ endorsed the requirement for DES to apply to civil aviation safety authority for and hold a remotely piloted aircraft operating certificate and have the required chief remote pilot role;
- ♦ approved that the initiative is an Activity (run as a business as usual); and
- ♦ noted high level estimated project costs of \$0.150M with funding available from existing budget within the ESR division;

AND

- For the ♦Drones working group♦, the DISC requested a charter be developed, defining the scope of this group and its

reporting relationship to DISC.

2. Could you please consider and provide your comments/nominations to me for forwarding to DISC please regarding Jacqui's email below. Note the concept brief notes consultation occurred with QPWS PAIEP, Park Services, drone reps from Central and Northern regions and feedback from Southern Region. Hopefully you know who in your patch was consulted and may wish to consider nominating them??

Added to the role of the working group is the topic of the use of drones by the public on DES controlled land e.g. National Parks. This was discussed at DISC and the general apprehension is that if we don't take steps to proactively manage this issue, DTMR might just dish something up to us although the Draft QGDUP does not refer to this issue. It is inward looking. Therefore, the inclusion of this scope may affect your nomination.

Many thanks
Adam

From: SAXBY Jacqueline

Sent: Tuesday, 18 December 2018 10:34 AM

To: LAWRENCE Rob; LAWRENCE Paul; PADDISON Jody; BROWN Glen; DELZOPPO Lindsay; CRADICK Adam; DELAFORCE Lynda; GRANT Tony; NICHOLS Elisa; BRIANT Steve; BROWN Glen

Cc: JACOBS Mark; BARKER Tim; HAWKINS Travis; MCKEOWN Christine

Subject: Digital Investment Sub Committee (DISC) - Drones Working Group

Good morning everyone,

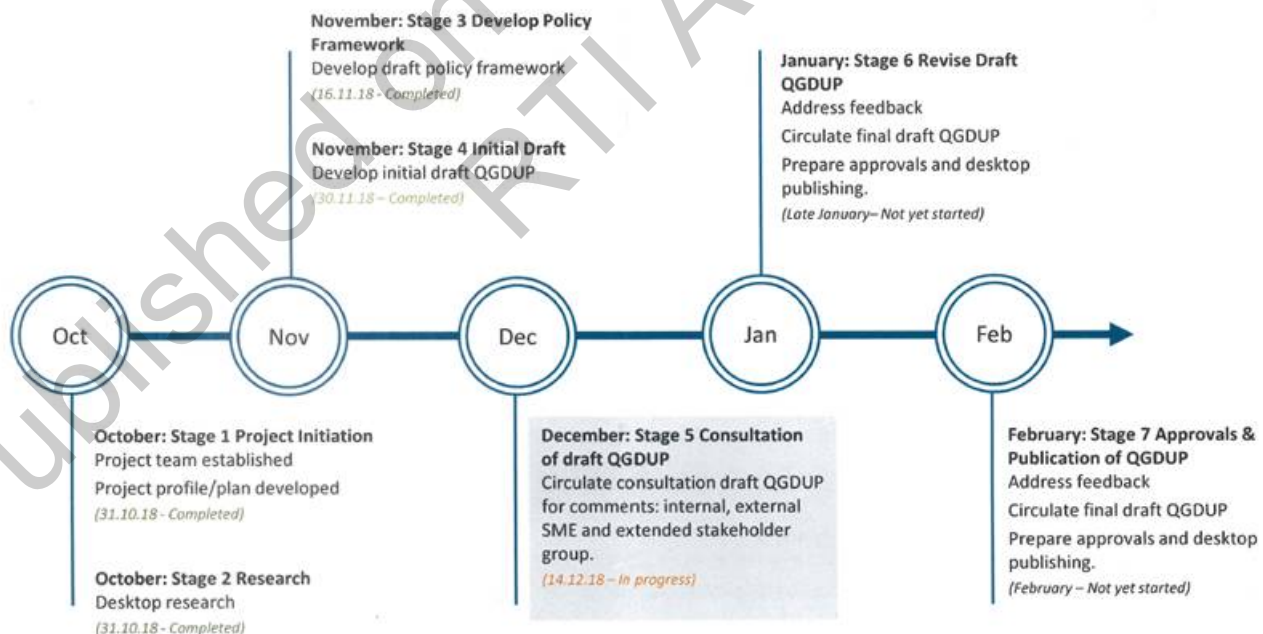
At the meeting on 12 December 2018 DISC approved the creation of a Drones Working Group, with its remit including Unmanned Aerial Vehicle (UAV) / Drone topics such as policy, standards, governance and use.

Actions:

1. **Nomination due by close of business Wednesday 9 January 2019:** As the divisional representative on DISC, could you please nominate your division's representative to sit on the Drones Working Group via email to Gaynor.Simonds@des.qld.gov.au. The first meeting is proposed for 2pm on Thursday 17 January 2019.
2. **Response due by 10.00am on Thursday 10 January 2019:** The draft Queensland Government Drones Use Policy (QGDUP) has been received from Department of Transport and Main Roads (DTMR) for consideration and a copy is attached. Could you please have your nominated representative provide feedback on the attached template via email to Gaynor.Simonds@des.qld.gov.au.

DTMR have proposed a very tight timeframe for development and approval of the QGDUP, as outlined below:

QGDUP Project Timings



It is envisioned that nominated representatives would have good availability between mid-January and March 2019 to align with the intensive work being undertaken by DTMR in that period.

Matters for consideration by the working group will include:

- The QGDUP being developed by DTMR
- The use of drones by the public on DES controlled land e.g. National Parks.
- Guidance and analysis of the Environmental Services and Regulation (ESR) initiative to use UAV technology in compliance

If you have any queries please contact Gaynor Simonds on 3330 5479 (ext. 25479) in the first instance.
19-211 File G

Thanks in anticipation of your assistance in confirming membership of this important working group.

Kind regards,

Jacqui



Jacqueline Saxby

A/Deputy Director-General | Protected Area Innovation, Engagement and Policy
Department of Environment and Science

P 07 33389341

Level 4, 400 George Street, Brisbane QLD 4000

GPO Box 2454, Brisbane, QLD 4001

Published on DES Disclosure Log
RTI Act 2009

Date : 9/01/2019 11:41:11 AM
From : "CONTARINO Anthony"
To : "MCLAUGHLIN Marty"
Cc : "MOORE Peter" , "JESS Sarah" , "BROOK Scott" , "Corro QPWS Northern CR"
Subject : RE: Action: DISC – Drones Working Group etc
Attachment : image002.png;image007.jpg;image008.png;image001.png;image004.png;
Feedback Endorsed



Anthony Contarino
A/Regional Director,
Central Region I Queensland Parks and Wildlife Service
Department of Environment and Science

P 07 47967784
M 4(6) Personal inform
Level 10, 445 Flinders Street, Townsville Qld 4810
PO Box 5597, Townsville Qld 4810

From: MCLAUGHLIN Marty
Sent: Wednesday, 9 January 2019 11:21 AM
To: CONTARINO Anthony <Anthony.Contarino@des.qld.gov.au>
Cc: MOORE Peter <Peter.Moore@des.qld.gov.au>; JESS Sarah <Sarah.Jess@des.qld.gov.au>; BROOK Scott <Scott.Brook@des.qld.gov.au>; Corro QPWS Northern CR <QPWSnorthernCR.Corro@des.qld.gov.au>
Subject: FW: Action: DISC ♦ Drones Working Group etc

Recommendation

The Regional Director endorses the attached feedback on the draft Queensland Government Drone Use Policy (QGDUP) which in summary recommends:

- QPWS endorse the draft policy and raise no concern as drafted; and
- QPWS ensure adequate representation and input into the development of Departmental policy and procedure for drone use for operational purposes.

Background

The Queensland Drones Strategy (QDS), released in 2018, has a vision for Queensland to be a world leader in drone technology and application.

The QDS prescribed the Department of Transport and Main Roads to be the lead agency in the development of an internal drones use policy. The Draft Queensland Government Drones Use Policy (QGDUP) is the result of that action.

The draft QGDUP provides guidance on the use of drones by Queensland Government agencies and employees.

The purpose of the draft QGDUP is to provide Queensland Government agencies with a high-level policy framework to guide the basic requirements of drone use including operations, safety, data collection and security, information management and procurement.

Next Step

If endorsed this recommendation and the attached feedback form are forwarded to ED QPWS NPF for endorsement prior to forwarding to Gaynor Simonds and Adam Cradick.

Marty McLaughlin
Principal Ranger (Central Region)
Department of Environment and Science
Phone: (07) 4796 7790
Mobile: 4(6) Personal inform
Email to : marty.mclaughlin@des.qld.gov.au
Visit us online at www.des.qld.gov.au

From: BROOK Scott
Sent: Tuesday, 8 January 2019 5:26 PM
To: MCLAUGHLIN Marty; HOLLOWAY Ian; DOLLERY Colin
Cc: HARGREAVES Jack
Subject: FW: Action: DISC ♦ Drones Working Group etc

Hello,

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- **SME Group Feedback Template v.1.doc**; my proposed response. I've included some background points to inform RD / ED.

I have found that there is no conflict between the proposed policy and how we operate here in Central. Ian or Col are you able to confirm for N region? Col I note that Ian is away 18 days.

There is risk involved with the next step; development of a DES procedure. To counter this risk, we should provide representation to the DES Drone User Group who will advise on the procedure development. Noting ED has endorsed Col and myself for this task.

Marty, can you pls advise / discuss any changes / format etc?

Regards



Scott Brook
A/Principal Ranger
Central Region.
Department of Environment and Science

P 07 4936 0105 M 4(6) Personal inform
61 Yeppon Rd, Nth Rockhampton
PO Box 3130, Nth Rockhampton 4701

From: CRADICK Adam

Sent: Tuesday, 18 December 2018 11:35 AM

To: AMATT Rosie <Rosie.Amatt@des.qld.gov.au>; EGAN Sally <Sally.Egan@des.qld.gov.au>; NEWMAN James <James.Newman@des.qld.gov.au>; HEAD Damien <Damien.Head@des.qld.gov.au>; BRITTINGHAM Geoff <Geoff.Brittingham@des.qld.gov.au>; MARANO Nat <Nat.Marano@des.qld.gov.au>; LOSADA Vanessa <Vanessa.Losada@des.qld.gov.au>; KLAASSEN Ben <Ben.Klaassen@des.qld.gov.au>; DEVERY Michael <Michael.Devery@des.qld.gov.au>

Subject: Action: DISC - Drones Working Group etc

Hi Everyone,

(Mike - I have also sent to you in your role given the concept brief is about the implementation of UAV Technology in Compliance)

1. At DISC on 12 December 2018, the Drones DISC Pack was considered by DISC. (See Drones DISC Pack which I have scanned, don't worry about my scribbles). As you are aware, there is a requirement for an agency UAV / drone capability, to develop of effective compliance strategies for various parts of the agency. This kind of capability brings new methods of providing evidence for levy prosecution cases, which the DG is apparently keen to see progress. In September 2018 DISC supported the Technical Note submission to progress to the DG approval. It was raised that the submission may not have disclosed DISC's concerns around how the agency would need to address the use of drones on public land as a policy. DISC:

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- noted high level estimated project costs of \$0.150M with funding available from existing budget within the ESR division;

AND

- For the Drones working group, the DISC requested a charter be developed, defining the scope of this group and its reporting relationship to DISC.

2. Could you please consider and provide your comments/nominations to me for forwarding to DISC please regarding Jacqui's email below. Note the concept brief notes consultation occurred with QPWS PAIEP, Park Services, drone reps from Central and Northern regions and feedback from Southern Region - hopefully you know who in your patch was consulted and may wish to consider nominating them?

Added to the role of the working group is the topic of the use of drones by the public on DES controlled land e.g. National Parks - this was discussed at DISC and the general apprehension is that if we don't take steps to proactively manage this issue, DTMR might just dish something up to us - although the Draft QGDUP does not refer to this issue - it is inward looking. Therefore, the inclusion of this scope may affect your nomination.

Many thanks
Adam

From: SAXBY Jacqueline

Sent: Tuesday, 18 December 2018 10:34 AM

To: LAWRENCE Rob; LAWRENCE Paul; PADDISON Jody; BROWN Glen; DELZOPPO Lindsay; CRADICK Adam; DELAFORCE Lynda; GRANT Tony; NICHOLS Elisa; BRIANT Steve; BROWN Glen

Cc: JACOBS Mark; BARKER Tim; HAWKINS Travis; MCKEOWN Christine

Subject: Digital Investment Sub Committee (DISC) ♦ Drones Working Group

Good morning everyone,

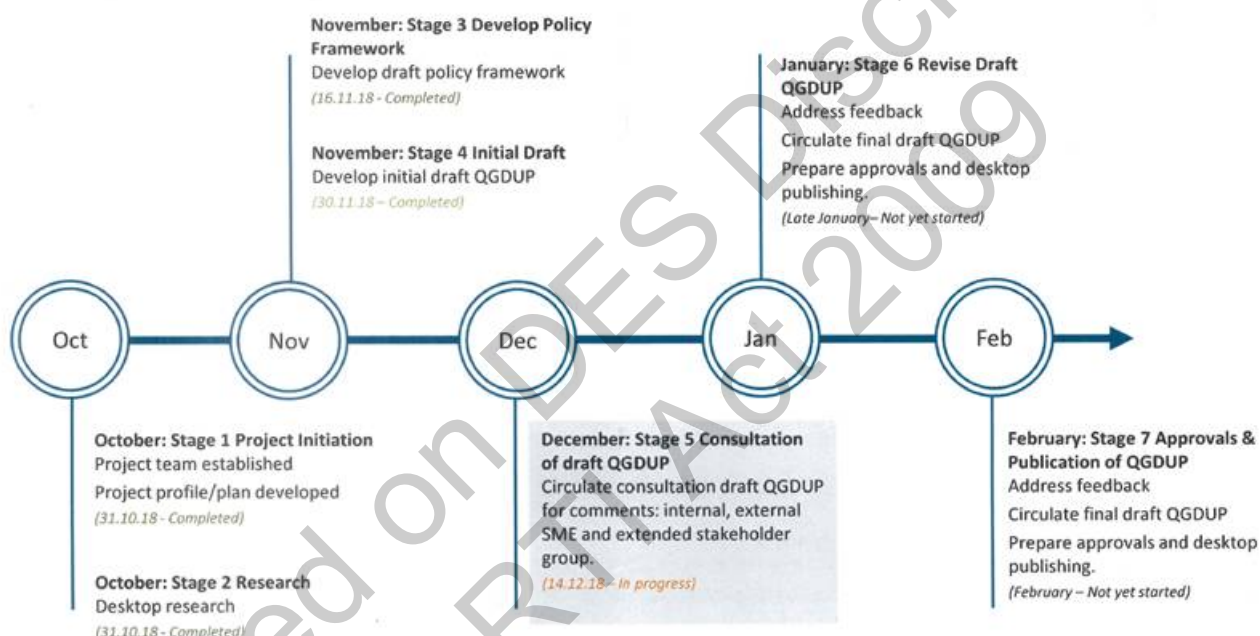
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Actions:

1. **Nomination due by close of business Wednesday 9 January 2019:** As the divisional representative on DISC, **could you please nominate your division's representative to sit on the Drones Working Group** via email to Gaynor.Simonds@des.qld.gov.au. The first meeting is proposed for 2pm on Thursday 17 January 2019.
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DTMR have proposed a very tight timeframe for development and approval of the QGDUP, as outlined below:

QGDUP Project Timings



It is envisioned that nominated representatives would have good availability between mid-January and March 2019 to align with the intensive work being undertaken by DTMR in that period.

Matters for consideration by the working group will include:

- The QGDUP being developed by DTMR
- The use of drones by the public on DES controlled land e.g. National Parks.
- Guidance and analysis of the Environmental Services and Regulation (ESR) initiative to use UAV technology in compliance

If you have any queries please contact Gaynor Simonds on 3330 5479 (ext. 25479) in the first instance.

Thanks in anticipation of your assistance in confirming membership of this important working group.

Kind regards,

Jacqui



Jacqueline Saxby

A/Deputy Director-General | Protected Area Innovation, Engagement and Policy
Department of Environment and Science

P 07 33389341
Level 4, 400 George Street, Brisbane QLD 4000
GPO Box 2454, Brisbane, QLD 4001

Date : 9/01/2019 11:41:11 AM
From : "CONTARINO Anthony"
To : "MCLAUGHLIN Marty"
Cc : "MOORE Peter" , "JESS Sarah" , "BROOK Scott" , "Corro QPWS Northern CR"
Subject : RE: Action: DISC – Drones Working Group etc
Attachment : image002.png;image007.jpg;image008.png;image001.png;image004.png;
Feedback Endorsed



Anthony Contarino
A/Regional Director,
Central Region I Queensland Parks and Wildlife Service
Department of Environment and Science

P 07 47967784
M 4 (6) Personal information
Level 10, 445 Flinders Street, Townsville Qld 4810
PO Box 5597, Townsville Qld 4810

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Principal Ranger (Central Region)
Department of Environment and Science
Phone: (07) 4796 7790
Mobile: 4 (6) Personal information
Email to : marty.mclaughlin@des.qld.gov.au
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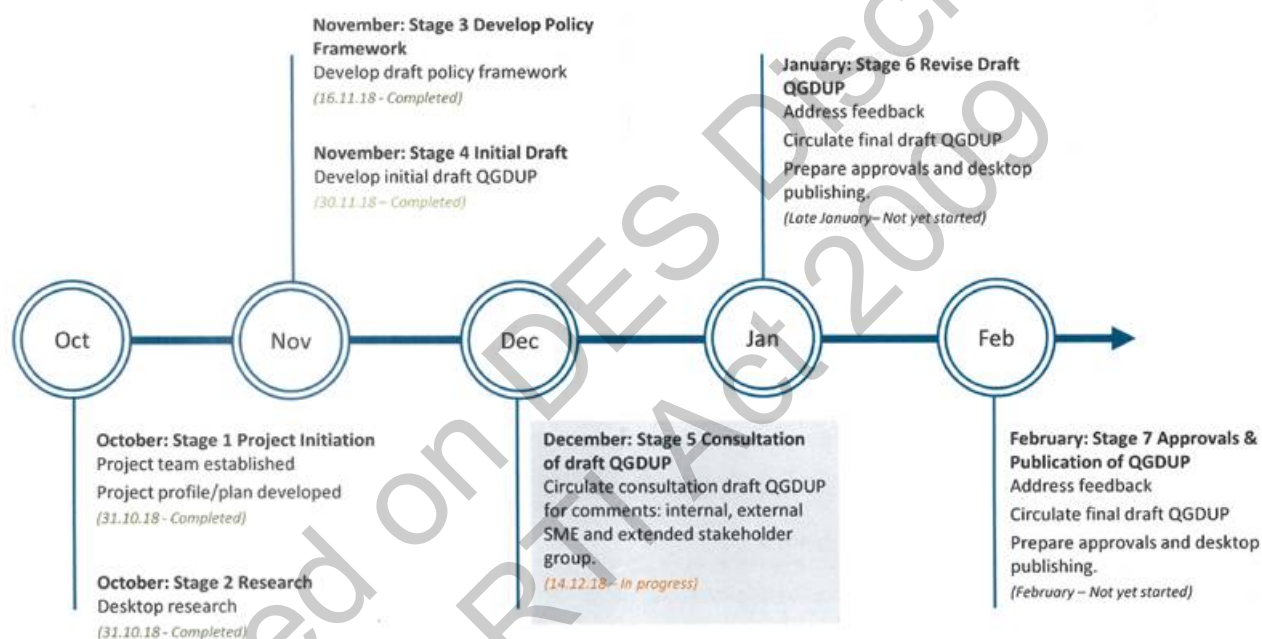
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Jacqui



Jacqueline Saxby

A/Deputy Director-General | Protected Area Innovation, Engagement and Policy
Department of Environment and Science

P 07 33389341
Level 4, 400 George Street, Brisbane QLD 4000
GPO Box 2454, Brisbane, QLD 4001

Date : 15/08/2019 2:09:52 PM

From : "HOLLOWAY Ian"

To : "BAKER Andy"

Subject : RE: drone imagery

Possibly as a SHP file.

Ian Holloway

Resource Ranger, Dry Tropics

QPWS Atherton PH07 4091 8113 Mob 4p4(6) Personal informat

From: BAKER Andy <Andy.Baker@des.qld.gov.au>

Sent: Thursday, 15 August 2019 2:08 PM

To: HOLLOWAY Ian

Subject: RE: drone imagery

Ian, you know how you mosaicked the long pocket images for me?

Do you still have the KML somewhere?

From: HOLLOWAY Ian <Ian.Holloway@des.qld.gov.au>

Sent: Friday, 14 June 2019 12:34 PM

To: BAKER Andy

Subject: RE: drone imagery

Only a small section could be mosaicked, I have put the result back into the same folder

Regards

Ian Holloway

Resource Ranger, Dry Tropics

QPWS Atherton PH07 4091 8113 Mob 4(6) Personal infor

From: BAKER Andy <Andy.Baker@des.qld.gov.au>

Sent: Friday, 14 June 2019 11:18 AM

To: HOLLOWAY Ian

Subject: drone imagery

Hi Ian,

T:\Brisbane\• NORTHERN\Baker\For Ian

I am chasing a favour.

I did some further drone surveys of Long Pocket recently.

You attempted to mosaic them last time, but wondering if it will work better this time.

I surveyed at a higher altitude and with a greater overlap.

Agisoft still won't stitch them, but you might have more luck?

Cass Ck works with Agisoft but not LP.

Cheers,

Andy

Date : 4/12/2019 9:01:47 AM

From : "BAKER Andy"

To : "BROOK Michelle"

Subject : RE: Epping Drone Imagery

Attachment : image001.png;image003.png;

I did it on D2M. It works really well, and the full quality stitch doesn't take too long.

Only prob is my crashing PC, took a few times to get that image, but might be fixed now.

I also did a full quality stitch of the fire scar area and it looks awesome – sub 5cm resolution. Very detailed.

Just need to do again because it crashed half way through so didn't get the southern section of the block.

Interestingly, it clearly shows the fires didn't travel far from the breaks. Obvious need for aerial and/or slingshots and dragon eggs at very least.

Will attempt again today and send through.

From: BROOK Michelle

Sent: Tuesday, 3 December 2019 6:07 PM

To: BAKER Andy

Subject: RE: Epping Drone Imagery

This is great Andy, I'm keen to try it at lower altitude - and to see the fire scar stuff too.

Did you do this stitch or did Col do it?

From: BAKER Andy

Sent: Tuesday, 3 December 2019 2:41 PM

To: MCLAUGHLIN Marty; BROOK Michelle; BROOK Scott

Subject: Epping Drone Imagery

Link below is to a orthophoto mosaic from our Epping trip a while back.

It has a 12.5cm resolution and covers the entire proposed grazing plot.

This is a stitch of around 400 images and was a bit of an experiment with the drone and image stitching technology we currently have on offer (covers a much larger area than anything I've managed to mosaic in the past).

The buffel grass is clearly visible as clumps, and wombat burrows are also quite clear (zoom in and pan along the most northern road).

Now I've worked out some of the limitations I think we could take images at a lower altitude to improve resolution to around 5cm while covering a similar geographic area.

This would allow application of this method as a repeatable monitoring tool to collect a range of useful data e.g buffel extent and density over time, comparison inside and outside grazing plots and possibly very detailed fire scar mapping.

[https://teams.microsoft.com/_#/files/General?](https://teams.microsoft.com/_#/files/General?threadId=19%3A496ff1bc796e49d5a8e5bd71721bfaa0%40thread.skype&ctx=channel&context=VBMF%2520and%2520Strategies%252FEpping%252FOrthophoto%2520Mosaics)

[threadId=19%3A496ff1bc796e49d5a8e5bd71721bfaa0%40thread.skype&ctx=channel&context=VBMF%2520and%2520Strategies%252FEpping%252FOrthophoto%2520Mosaics](https://teams.microsoft.com/_#/files/General?threadId=19%3A496ff1bc796e49d5a8e5bd71721bfaa0%40thread.skype&ctx=channel&context=VBMF%2520and%2520Strategies%252FEpping%252FOrthophoto%2520Mosaics)

This may also be a useful option in other situations such as mapping extent of fire damage to scrubs, or detailed mapping of weed infestations.

Cheers,

Andy



Andy Baker

Acting Regional Fire Coordinator

Central Region

Technical Support I QPWS&P

Department of Environment and Science

M: Personal In
5B Sheridan Street Cairns
Qld, 4870

Date : 5/06/2019 7:59:56 AM

From : "BAKER Andy"

To : "WHITE Chris (Atherton)" , "PARSONS Mark"

Subject : Re: Fire incursion - Nyleta case study

Setting up new drone this week and trialling on grassy pockets. A few small bugs to iron out. Induction as soon as we all have half a day yo spare. Keen

Get [Outlook for Android](#)

From: WHITE Chris (Atherton)

Sent: Tuesday, June 4, 2019 10:10:34 AM

To: PARSONS Mark

Cc: BAKER Andy

Subject: RE: Fire incursion - Nyleta case study

Ready To go. Keen as.

From: PARSONS Mark <Mark.Parsons@des.qld.gov.au>

Sent: Tuesday, 4 June 2019 10:07 AM

To: WHITE Chris (Atherton)

Cc: BAKER Andy

Subject: FW: Fire incursion - Nyleta case study

Chris, once Andy gets his hands on the fire team drone, I was hoping he could give you an induction with view for similar examples like this (Nyleta).

It looks like we have the Herbarium (Eda Addicott, Mark Newman and Alicia Wain) able to visit last week in Jul (week of 22nd)

From: PARSONS Mark

Sent: Tuesday, 4 June 2019 10:05 AM

To: REILLY Audrey

Cc: ROACH Chris

Subject: RE: Fire incursion - Nyleta case study

Hmmm, I might caution on the wording of *easily repeat on ground* just because I'm thinking more medieval in terms of a suit of armour if we have to walk that Nyleta transect any further in.

Fire team will have a you beaut drone shortly, courtesy of the indomitable Mr Baker. Be a good site to test it's capability.

But likewise, great to see in tandem effort to progress towards especially on site rehab excellent!

From: REILLY Audrey <Audrey.Reilly@des.qld.gov.au>

Sent: Monday, 3 June 2019 3:23 PM

To: PARSONS Mark

Cc: ROACH Chris

Subject: RE: Fire incursion - Nyleta case study

Thanks Mark for progressing this pls keep going.

Fyi..

Council and Terrain are looking to reveg along the road and have grant funding for the next 4 years. I have provided some seed funding for them to extend the reveg to capture the extra 350m of park estate and to do weed maintenance on it for us for the next 4yrs + I will provide some in kind contributions of plants and help with the community reveg (my speciality).

The seed funding will also go towards capture of drone footage before, during and after.

Would be great to adopt an assessment tool that we can easily repeat on ground for monitoring purposes.

Gotta run,

Aud ☺

From: PARSONS Mark <Mark.Parsons@des.qld.gov.au>

Sent: Monday, 3 June 2019 2:44 PM

To: ADDICOTT Eda

Cc: ROACH Chris; REILLY Audrey

Subject: RE: Fire incursion - Nyleta case study

19-211

File G

Page 102 of 112

Ta ♦ would that still require a formal ask to Tim for you and presumably Mark to have a look first, and/or initiate discussion with Chris Roach and Audrey Reilly (as local QPWS staff managing that park)? Access into site is rather daunting and challenging beyond peering from the edge ♦ which then practically dictates what level of plot or transect we ♦ be able to install ♦ Chris Roach has 3 photo plots he ♦s already put in.

From: ADDICOTT Eda <eda.addicott@des.qld.gov.au>

Sent: Monday, 3 June 2019 2:28 PM

To: PARSONS Mark

Subject: RE: Fire incursion - Nyleta case study

Hi Mark;

It might be worth talking to my boss Tim Ryan about the potential / possibility of monitoring damage and recovery using the biocondition site protocols for this. As you ♦ll know we have a veg condition project going on at the moment (as part of an election commitment) and it might dovetail in to this.

His phone number is 3199 7653

Cheers

Eda

Eda Addicott

Principal Botanist, Queensland Herbarium, DES

ph: 07 4232 1807 fax: 07 4232 1842

Email: Eda.Addicott@qld.gov.au; eda.addicott@des.qld.gov.au

Australian Tropical Herbarium

Sir Robert Norman Building (E2)

James Cook University, Cairns Campus

P.O.Box 6811

Cairns, QLD 4870

From: PARSONS Mark

Sent: Wednesday, 22 May 2019 9:20 AM

To: ADDICOTT Eda <eda.addicott@des.qld.gov.au>

Cc: REILLY Audrey <Audrey.Reilly@des.qld.gov.au>; ROACH Chris <Chris.Roach@des.qld.gov.au>

Subject: Fire incursion - Nyleta case study

Eda, as per draft and confidential notes around Nyleta wildfire impact of November last year, and seeking possible assistance to document damage to regional ecosystem integrity, condition etc?

Date : 16/04/2019 2:47:45 PM
From : "IBBETT Michelle"
To : "PARSONS Mark" , "BAKER Andy"
Cc : "KINNAIRD Chris"
Subject : RE: Fire Team Drone
Attachment : image001.jpg;

Hi Andy,
Just to confirm our discussion today regarding the drone purchase outlined below:

Yesterday Chris, Mark and I had a chat about the purchase and we asked Mark to confirm with you that you had exhausted options for accessing under-utilised drones already in the region (we specifically discussed the assets drone as an option for you), that you had a pre-determined application for the drone, that we have available budget and that the purchase would be made in line with the funding business rules and procurement rules.

You've confirmed with me today that you've spoken with Keith and a number of management units and determined that there wasn't an available drone that you could access for ongoing use. I'm comfortable that you have specific applications for the drone described below, particularly in regards to its use to support monitoring and evaluation and fire activity (planned burn and wildfire) assessments. We've previously agreed that budget is available and that the purchase is consistent with business and procurement rules.

Based on this, I'm happy to confirm approval to go ahead with the purchase.

Thanks
Michelle



Dr Michelle Ibbett
Assistant Principal Ranger
Technical Support Team | Northern Region | Queensland
Parks and Wildlife Service
Department of Environment and Science
P 07 4222 5257
M (6) Personal info
Level 2, 5b Sheridan Street Cairns QLD 4870 | PO Box 2066,
Cairns 4870

From: PARSONS Mark <Mark.Parsons@des.qld.gov.au>
Sent: Wednesday, 3 April 2019 10:18 AM
To: BAKER Andy
Cc: IBBETT Michelle
Subject: RE: Fire Team Drone

I'm supportive as long as we are confident that we will utilise those capabilities above and beyond perhaps more simple, universal application eg portable fire spotter "tower", basic internal fire boundary mapping edges (eg did fire hold or cross past that gully well inside from a point of access?), and some simple post fire monitoring and assessment. It isn't just the drone specs itself, do we have the corresponding time and critical mass on need to devote and put towards that as part of what we do? This is why for example I'm bouncing this up to Michelle, so we can have this quick discussion and reach consensus. Again, I'm supportive and we can easily justify on business rules; this is more just part of 'capacity creep' on one side of the equation nudging against our Annual Business Plan commitments, and having time to properly explore this as emerging innovation.

From: BAKER Andy <Andy.Baker@des.qld.gov.au>
Sent: Wednesday, 3 April 2019 9:39 AM
To: PARSONS Mark
Subject: Fire Team Drone

Hey Parso,

Just recently released. Purpose designed for fires, rescue and first responders.
DJI Mavic 2 Enterprise.
Comes with a dual camera – RGB and FLIR, off the shelf for around 4K.
Fits all the other DJI accessories we already have etc etc.

Follow this link - <https://www.dji.com/au/mavic-2-enterprise>
Thoughts?

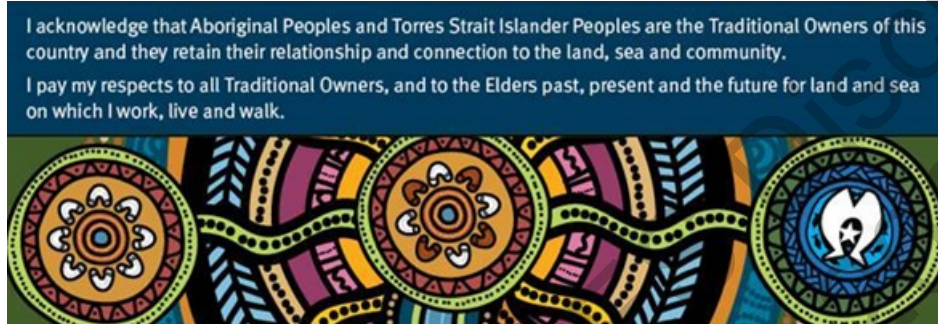
Andy

Date : 11/07/2019 1:35:48 PM
From : "BAKER Andy"
To : "KINNAIRD Chris"
Subject : RE: TERMS OF REFERENCE Drone Users Group draft for comment
Attachment : image001.png;image002.png;image003.png;
You think it's too much?

From: KINNAIRD Chris <Chris.Kinnaird@des.qld.gov.au>
Sent: Thursday, 11 July 2019 1:34 PM
To: BAKER Andy
Subject: RE: TERMS OF REFERENCE Drone Users Group draft for comment

I don't agree six days either

Chris Kinnaird
Principal Ranger, Technical Support
Northern Region
Queensland Parks and Wildlife Service & Partnerships
Department of Environment and Science
PO Box 2066
Cairns Qld 4870
Ph (07) 4222 5342
Mob: (6) Personal infor
Email: chris.kinnaird@npsr.qld.gov.au



From: BAKER Andy
Sent: Thursday, 11 July 2019 1:29 PM
To: KINNAIRD Chris
Subject: RE: TERMS OF REFERENCE Drone Users Group draft for comment

Sorry mate, yes I think it's good. Positive step forward and on the front foot.
I do disagree with Andrew that 6 days is too much of a commitment for the activity.
I don't think its locking in 6 days, my interpretation is it's just suggesting there's an allowance for up to that for a few staff, if required.
Also, I reckon you could value add to these workshops and include other emerging and useful technologies. But that's for another discussion.

Cheers,
Andy

From: KINNAIRD Chris <Chris.Kinnaird@des.qld.gov.au>
Sent: Thursday, 11 July 2019 1:18 PM
To: BAKER Andy
Subject: FW: TERMS OF REFERENCE Drone Users Group draft for comment

Anything mate?

Chris Kinnaird
Principal Ranger, Technical Support
Northern Region
Queensland Parks and Wildlife Service & Partnerships
Department of Environment and Science
PO Box 2066
Cairns Qld 4870
Ph (07) 4222 5342
Mob: (6) Personal infor
Email: chris.kinnaird@npsr.qld.gov.au

I acknowledge that Aboriginal Peoples and Torres Strait Islander Peoples are the Traditional Owners of this country and they retain their relationship and connection to the land, sea and community.

I pay my respects to all Traditional Owners, and to the Elders past, present and the future for land and sea on which I work, live and walk.



From: MILLERD Andrew

Sent: Thursday, 11 July 2019 11:25 AM

To: KINNAIRD Chris; DEVLIN Tim; BAKER Andy; DOMIN Ross

Cc: IBBETT Michelle; STALLBAUM Brett; FULLER David

Subject: RE: TERMS OF REFERENCE Drone Users Group draft for comment

Comments herein. Hope these help.



Andrew Millerd

Principal Ranger

Queensland Parks and Wildlife Service | Atherton

Department of Environment and Science

P 07 4091 8109 or [6\) Personal info](#)

83 Main St, Atherton

PO Box 975 Atherton, Q 4883

From: KINNAIRD Chris <Chris.Kinnaird@des.qld.gov.au>

Sent: Friday, 5 July 2019 3:28 PM

To: DEVLIN Tim; MILLERD Andrew; BAKER Andy; DOMIN Ross

Cc: IBBETT Michelle; STALLBAUM Brett; FULLER David

Subject: TERMS OF REFERENCE Drone Users Group draft for comment

Afternoon all

Col is trying to progress the Drone User Group Terms of Reference so they can start thinking about another workshop. The attached was developed by Col and has had comment from Michelle and I. Can you please have a look over the draft ToR and get back to me with further comments please – say by Wednesday 10 July?

Cheers

C

PR NR	COST COLLECTOR	COST COLLECTOR DESC	ACCOUNT	ACCOUNT DESC	POSTING DATE	DOCUMENT DATE	DOCUMENT NO	HEADER TEXT	ENTRY DATE	REFERENCE DOC NO	DESCRIPTION LONG	AMOUNT	Comments
1820	180243	Excess Invent - Central	530304	Plant and Equipment <5000	18-Jun-18	18-Jun-18	6000000008	2403 Dr Exp 44118	18-Jun-18	DEHP 18.03.2018	ADAMS Michelle DEC 18 Drone	2403.00	Michelle Adams purchased 17721 D8
1828	1802130	CR # Central Highlands Wildlife Suspense	530304	Plant and Equipment <5000	18-Dec-18	18-Dec-18	6000000006	2403 Dr Exp DEC18	18-Dec-18	DEHP 18.12.20-03	ENDON William DEC 18 Phantom 4 Drone	2180.00	Scott Brook purchased 18 Dec 18
PR NR	COST COLLECTOR	COST COLLECTOR DESC	Account	Account Desc	Posting Date	DOCUMENT DATE	DOCUMENT NO	HEADER TEXT	ENTRY DATE	REFERENCE DOC NO	DESCRIPTION LONG	AMOUNT	
1828	1802174	FIRE LINE SAFETY W/	530304	Low Value Assets	04-Sep-18	04-Sep-18	6000000047	2403 Dr Exp SEP18	04-Sep-18	DEHP 04.09.2018	ENDON William AUG 18 Puchai Mavic Air	1180.80	Scott Brook purchased 4 September 18
PR NR	COST COLLECTOR	COST COLLECTOR DESC	Account	Account Desc	Posting Date	DOCUMENT DATE	DOCUMENT NO	HEADER TEXT	ENTRY DATE	REFERENCE DOC NO	DESCRIPTION LONG	AMOUNT	
1820	1802117	Program Maint - Central West	530304	Low Value Assets	24-Sep-18	24-Sep-18	6000000041	2403 Dr Exp SEP18	24-Sep-18	DEHP 24.09.2018	MOSS Stephen SEP-18 Phantom 4 Pro Drone, brand #1	2640	Stephen Moss - 24 Sept 18

Nil for period Jan 18 to June 18

OST COLLECTOR	T COLLECTOR	T COLLECTOR	Org Unit	VENDOR NAME	CUSTOMER NO	CUSTOMER NAME	PURCH ORDER NO	HEADER TEXT	REFERENCE DOC NO	TAX CODE	CPID	DESCRIPTION LONG	AMOUNT
1002117	Program Mgmt - CTR		MDA					2401 Dr Exp SEP19	DEHP 04.09.2019	PG		MOSS Stephen SEP-19 Hard case for drone	428.18
1002117	Program Mgmt - CTR		MDA					2401 Dr Exp SEP19	DEHP 24.09.2019	PG		MOSS Stephen SEP-19 Phantom 4 Pro Drone, based at	2640

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[illegible]

SEGMENT	COST COLLECTOR	COLLECTOR	ACCOUNT	ACCOUNT DESC	HEADER TEXT	REFERENCE DOC	TAX CODE	CPID	DESCRIPTION LONG	AMOUNT
CONTL	1003430	CQ Bushfires -	530304	Plant and	C Schneider	2019MBA035	PZ		Tfr~BROOK W DEC18 Phantom 4 Drone1002130>1003430	2180.91 in
CONTL	1002130	CR # Central	530304	Plant and	2401 Dr Exp	DEHP 18.12.20	PG		BROOK William DEC-18 Phantom 4 Drone	2180.91 pur
CONTL	1002130	CR # Central	530304	Plant and	C Schneider	2019MBA035	PZ		Tfr~BROOK W DEC18 Phantom 4 Drone1002130>1003430	-2180.91 out
CONTL	1002206	Sth West	530304	Plant and		421274		PNF219	DJI PHANTOM 4 HIGH CAP BATTERY	250
CONTL	1002206	Sth West	530304	Plant and		421274		PNF219	DJI PHANTOM 4 PRO DRONE	2320

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