



## Minutes of the Propagation Studies Committee

19 October 2019

### Attendees:

Steve Nichols	G0KYA	Chairman
Dr John Worsnop	G4BAO	Vice Chairman
Chris Deacon	G4IFX	Secretary
Alan Melia	G3NYK	
Dr Peter Duffett-Smith	G3XJE	
Prof Barry Chambers	G8AGN	
Simone Wilson	M0BOX	RSGB Board Liaison

### 1. Apologies for absence

Apologies had been received from full members G3SVW and G0HSV, and corresponding member M0DNS.

### 2. Matters arising from the minutes of the meeting held on 4 May 2019

These minutes had previously been approved via email and posted on the RSGB website. Matters arising are dealt with under other agenda items.

### 3. PSC membership

It was noted with regret that long-standing committee member Les Barclay died recently; an appreciation has been published in RadCom. As well as being a long-standing radio amateur, Les had a substantial reputation as a professional radio scientist and he will be missed by both the professional and amateur communities. See also item 4.3 below.

The committee agreed to record its congratulations to corresponding member Prof Cathryn Mitchell, M0IBG for winning the 2019 Edward Appleton Medal and Prize for her pioneering research in tomography and data assimilation.

George Jacob, G0HSV has asked to move from full to corresponding membership and this was accepted by the committee. It was also agreed not to actively recruit another full member at present.

**Action: G4IFX** to update and re-issue the PSC membership list.

**Post-meeting note:** shortly after the meeting, PSC was informed that Simone Wilson, M0BOX had resigned from the RSGB Board. It is anticipated that a replacement in her role as PSC Board Liaison will be appointed in due course.



## 4. Topics for discussion

### 4.1. RSGB website update

PSC webmaster Alan, G3NYK reported that he is about to load an HF beacon list as a scrolling page, based on the latest version of Martin, G3USF's list.

**Action: G3NYK**

Alan is also planning to review the overall sequence and layout of the PSC pages, now that the initial updates have been done.

**Action: G3NYK**

The committee agreed to minute its thanks to Alan for his hard work improving the website.

### 4.2. Beacon lists

There was a discussion about increasing publicity for **beaconspot** because it is such a useful facility. It was agreed to add a link to it from the PSC page and also to mention it in a future RadCom item.

**Action: G3NYK (website) and G0KYA (RadCom)**

There was then a discussion about the potential for extension of beaconspot to add HF beacons. It was agreed to make contact with the owner again about the potential for RSGB to develop and host a similar facility for HF, and to ask whether he would be willing to advise on such a development.

**Action: G0KYA** to consult with the owner, probably via Sam, G4DDK

### 4.3. Possible establishment of a 'Les Barclay Award'

Simone, M0BOX reported that she had represented RSGB (and particularly PSC) at Les Barclay's funeral.

Simone also reported that Les' wife had suggested, via the Ripon club, that a suitable award should be established in Les' name. The committee agreed that this would be a very worthwhile thing to do.

Two broad options were discussed:

- a) An award to recognise those who had made excellent contributions to propagation research and understanding, ranging from conducting original research through to spreading knowledge about propagation and inspiring interest among amateurs.
- b) An operating award based on (e.g.) making contacts via unusual and/or multiple propagation modes.

In discussion, the committee came to the conclusion that option (a) would be preferable because it would bring the opportunity to promote interest and to publicise anything within the broad remit of the PSC.

**Action: G0KYA** to take this proposal forward.

#### 4.4. Possible RadCom articles

Simone, M0BOX indicated her view that there is an ongoing need for introductory propagation articles in RadCom on a fairly regular basis, to support and encourage newcomers to the hobby.

### 5. Projects and potential projects

#### 5.1. HF propagation prediction models

It has been decided to keep the existing format of the monthly propagation predictions in RadCom for the foreseeable future. More broadly, the intention is to maintain both the ITURHFProp and VOACAP propagation prediction services in place because they are both useful in different contexts.

To assist members in finding the prediction services, a number of 'short form' web addresses have been put in place: [rsgb.org/propopy](http://rsgb.org/propopy), [rsgb.org/preptest](http://rsgb.org/preptest) and [rsgb.org/propquest](http://rsgb.org/propquest). RSGB is funding the hosting of preptest.

As previously noted, corresponding member Gwyn Williams has begun a long-term project to compare the accuracy of the alternative models for predicting actual HF conditions.

#### 5.2. Other projects for the next 12 months

It was suggested that PSC could consider creating a new 'live' propagation service. There was then a broad discussion about this sort of 'nowcasting' and it was agreed that the value of adding a new service would be questionable given that there are already a number of live reporting systems already in operation. But it was also agreed that consideration should be given to adding items on the PSC website to signpost existing services like [wspn.net](http://wspn.net), [pskreporter](http://pskreporter.com), [on4kst](http://on4kst.com) and the DX cluster.

**Action: G3NYK**

### 6. Chairman's report (G0KYA)

#### 6.1. Goonhilly

There is now a VHF web SDR operating at Goonhilly, [www.vhf-goonhilly.batc.org.uk](http://www.vhf-goonhilly.batc.org.uk). There have been no recent developments with the HF SDR but it is available at <http://kernow.hopto.org:8073>

There are plans to put a big ground loop out as there is plenty of room over an area of SSI heather and grass. In general there is the possibility, once again, for RSGB to fund a new project at Goonhilly.

**Action: G0KYA** to revert with potential project proposals

## 6.2. Events

The PSC stand was well received at the Newark Hamvention. Steve, G0KYA expressed his thanks to Peter G3XJE for this help and for putting on a very successful demonstration of WSPR, with stations as far afield as the USA picking up the 10W signals from a compromise antennas in the building. Simone passed on the thanks of the board to PSC for putting on a popular stand. During the day, Steve was interviewed for TXfactor and the ICQ podcast.

There was a good turnout of PSC members at the RSGB Convention, with talks being given by G4FKH, G0IJZ, G0KYA, G4IFX and G4DDK.

Steve is hoping to attend the next Spectrum Forum meeting on behalf of PSC but cannot attend the RSGB VLT on Saturday 16th November.

## 6.3. Other issues

- (a) All the Chilton (GB3RAL) beacons are off the air and are being stored. The search goes on for a new location.
- (b) There has been no progress on the WSPR beacon at Poldhu ARC. The club secretary says the project is on hold for the time being.
- (c) The question was raised about how and by whom propagation-related articles are reviewed before publication in RadCom. There have been some articles in recent years which were, arguably, misleading.

**Action:** G0KYA to take it up with the RadCom Editor.

**Post-meeting note:** it has subsequently been agreed with the Editor that in future, PSC will have the opportunity to review propagation-related items for RadCom before publication.

## 7. PSC member activity

**7.1. Steve, G0KYA** is progressing with looking at pre-auroral HF enhancements. He is using pskreporter to produce animated movies of activity. The system works and the first tests have been with FT8, but he may try again with WSPR as this may provide a more representative view of propagation. The trouble with FT8 is that stations come and go. It is hoped that WSPR stations are more likely to remain on long term. There is currently a problem with the map on wsprnet.

**7.2. Peter, G3XJE** attended the Newark Hamfest on behalf of PSC, as reported above. Peter has constructed a portable WSPR station for demonstrations to schools etc and it was used to good effect at Newark.

**7.3. Chris, G4IFX** received the Best Paper Award for his presentation entitled "Investigation of the polarisation of 50 MHz signals via sporadic-E reflection" at the Nordic HF Conference which took place from 12-14 August 2019 in Fårö, Sweden. This URSI-sponsored HF conference focuses on HF, LF and VLF communication, location and navigation systems 'beyond the horizon'. Chris is continuing the analysis of his more recent data.

**7.4. Barry, G8AGN** reported that his local club was celebrating its 100-year anniversary this year, for which Barry put on a demonstration of Hellschreiber via the E's'hail satellite fed



from the Goonhilly web SDR. Barry transmitted from his home station. This garnered a lot of interest from the public.

In the latest issue of Dubus, a VK3 has published a design for a transceiver on a chip working at 122 GHz. 45 people worldwide have signed up to buy the kit so far. Related propagation experiments would be of great interest – the 122 GHz range is close to an oxygen absorption band.

Barry's idea about extended reception of QO100 signals via tropo (see the May 2019 PSC minutes) has generated some activity on internet discussion groups. He will consider producing a RadCom article based on his discussion paper.

**7.5. Alan, G3NYK** reported that he has been asked by Dave Pick, G3YXM to update the propagation chapter in the next edition of the RSGB book 'LF Today'. Alan has also been reading the ARRL book 'Propagation and Radio Science' which contains ideas for experimental investigation of the X and O waves at VLF, which he is hoping to follow up on.

**7.6. John, G4BAO** did a live demo of QO100 at the RAL Microwave Round Table using a small portable station that he's put together. He is also still trying to convince people that 24 GHz band does work in the wet. He has had a number of rainscatter QSOs on the band.

**7.7.** Corresponding member **James, M0DNS/HZ1JW** had reported by email that he continues to develop his Proppy propagation prediction tool. As a result of concerns regarding Google's data harvesting practices, Proppy no longer uses Google Analytics (GA). Unfortunately, the absence of GA makes it harder to determine exactly how many visits the Radcom page is receiving, although emails from users indicate some interest.

Recent changes to the Proppy site include an improved presentation of the downloaded area plots, the most frequently requested feature. The site currently supports three alternative map projections but other formats may be added in the future. James is also currently working on an animation feature for the area page, similar to the predest site.

James has not made any significant changes to ITURHFProp in recent months; his most recent change was to fix a small memory leak.

He has also been lending some little assistance to a PhD student in Greece who has been implementing P533 in MATLAB, which looks interesting but is of course only of use to those with a copy of MATLAB.

## **8. Any other business**

None.

## **9. Date of next meeting**

Provisionally Saturday 16th May 2020.

**Chris Deacon G4IFX**  
**PSC Secretary**