



PAMGUARD Maintenance and Support Activities

Q2: 1st January 2015 – 31st March 2015

Tasks Completed:

Bug Fixing

The following bugs in PAMGuard were addressed in Q2 using JIP support funds:

Bug 2017. Threading hydrophone location error causing incorrect array locations when GPS data filtered to only record some of the data.

Bug 208. Logger forms CHECKBOX error which caused a crash if used is fixed.

Bug 209. Map zoom level for new configurations was too high. Now fixed.

Bug 212. Decimator very occasionally crashing with very large decimation factors now fixed.

Bug 215. Sound card dialog would crash if no sound cards present on system. Fixed.

Bug 216. Whistle classifier not running in Viewer mode. Fixed.

Bug 217. Viewer ode sometimes failing to load configuration. Fixed.

Bug 219. Viewer mode not correctly showing click train localisations. Fixed

The following bugs have been fixed using other (non JIP) funds:

Bug 218. SAIL Daq card hanging. Now fixed.

The following bugs were reported in Q2, but have not yet been addressed.

Bug 210. Map compass drawing. Does not always draw in correct location when map is resized.

Bug 211. The spectrogram is defaulting the frequency range settings each time you go back into the settings window.

Bug 213. Processing multiple sound files. Does not always stop when the stop button is pressed. Instead it just jumps onto the next file.

Bug 214. Whistle bearings on the radar display do not seem to display for as long as they should.

Code Maintenance

Two releases containing the above bug fixes were made available in January. Release 1.13.01 on 8 January and Release 1.13.03 on 1 March.

Website Administration and Maintenance

Updates to the supporters and contributors pages and additional information on the PAMGuard support mechanism.

Support to Developers

Code branched for a new developer wishing to make improvements to the spectrum plugin for the spectrogram display and a second developer wishing to develop an new acquisition interface to low cost MeasurementComputing devices.

User Support

A total email support time of 9h30 to users on a number of issues including problems with sound card interfaces, noise measurement and the bug reports listed above.

Self-sustaining Scoping Document

The first PAMGuard Maintenance Forum was held on Wednesday 11th March 2015 with the following in attendance:

- Doug Gillespie (SMRU)
- Rachael Plunkett & Claire Eatock (SMRU Marine)
- David Hedgeland (IOGP - International Association of Oil & Gas Producers)
- Roy Wyatt & Simon Cole (Seiche Ltd)
- Mark Higginbottom & James Scott (MSeis)
- David O'Hara (RPS)
- Sarah Tsoflias (Chevron)
- Bob Gisiner (IAGC – International Association of Geophysical Contractors)

Discussion of Levy System:

Due to recent events and the current market the supply chain is very cost sensitive at the moment and now is not a good climate to be able to ask suppliers to cover the costs of PAMGuard usage. Also noted was the fact that vessels are now moving into areas where PAM is not required, there is a general reduction in fleet size and a lack of money. Everyone agreed that \$20 a day was considerably too high, and that \$5 a day would be more acceptable. There is the need for it to be a 'fair playing field' with smaller companies with lower PAMGuard days paying their share as well as the larger companies.

It was suggested that a system that recognised and promoted those companies that have paid the voluntary levy could be put in place by stating who had contributed funds on the website or on the start-up screen for the PAMGuard software. This would showcase who was supporting the levy system and would allow identification of who isn't contributing. In order for this system to work, companies would have to estimate their annual PAMGuard usage for the upcoming year, pay the levy then at the end of the year assess if they had over or underestimated their usage. If they had underestimated they would pay additional funds to cover it, and if they had overestimated they could adjust the following years contribution. This will only work if companies/suppliers are upfront and honest about their usage.

There was the suggestion that seismic surveyors have to have a permit for operations which states the maximum number of days they are allowed to operate. This could be used to inform the number of PAMGuard days. How easily could we get this information? Note that the number of operation days is an overestimate as they need to cover themselves – it's often 2-3x higher than reality.

It was suggested that PAM operators record effort sheets that are collated at the end of a project and submitted. This is currently submitted to regulators (ie: JNCC) who keep records of all MMO and PAM effort during seismic surveys. It may not be easy to get this information from the regulators.

PAMGuard maintenance used to be funded by International Research Funders Coalition. Could we investigate creating a PAMGuard Support Coalition to fund the project? This could consist (for example) of members of the IAGC and IOGP.

There is a need to educate the contractors to explain why this levy system is in place. It was said that if they had clarity on what the money was used for and why it was necessary that they would be more willing to pay it. Suggestion for SMRU Marine to collate materials to give to contractors which would explain the cost for maintenance of PAMGuard and how the money is used.

Discussion of who should be paying the levy - the providers of equipment or the operators of PAMGuard? Opinion that it should be the owner of the equipment. This could be difficult for the owner of the equipment if they lease their equipment out – would they know the number of days it had actually been in the water? There could be a different charge for deck time (equipment on standby) vs in water time (operation).

Discussion of Other Systems:

Installer: as open source software, the source code itself is open source but the installer isn't, and so doesn't have to be given away for free. It is possible to charge people for the installer but this is a) considered to be an 'unfriendly' open source option, b) the installer can be copied and duplicated and so only paid for once for multiple users and c) it was suggested that collating PAMGuard days rather than number of installers would be easier.

Versions: discussion about different versions of PAMGuard, with the free version having only basic modules/limitations on features. This was dismissed as an option as it contradicts the open source license. For example: previous legal issues: TEL wanted development of 3d localisation module but wanted it for themselves under own IP under their Ts&Cs, but were told that that conflicted with the open source software.

The issue of commercial companies competing against the research community for work and how this would give the research community an unfair advantage if they had access to free software that the commercial users had to pay for.

Training courses: Previous training courses have been run through SMRU Marine by Doug Gillespie. However, these made little or no money by the time handout materials, venue, instructor fees, admin and advertising costs are factored in. There is also a lot of competition for PAM courses in the UK.

Phone Support Line/ Support Packages: Doug Gillespie and his staff do not have the time to successfully implement these.

Actions:

- All agreed to submit estimated PAMGuard usage days to SMRU Marine
- Those key users not present at the meeting (Gardline and Vanishing Point) will be contacted with a) a copy of the minutes and b) asked to also submit an estimate of their PAMGuard usage days.

- Once these estimated PAMGuard days have been totalled, SMRU Marine will apply the proposed \$5 a day levy and calculate the total funding for a year to allow us to see how close to the \$100,000 we get.
- All agreed to a follow up meeting as soon as possible – SMRU Marine will arrange and send out an email with suggested dates and times. Key is to try to involve those not present in this meeting.

Downloads:

The web stats show a total of 675 downloads of PAMGuard software between 1st January 2015 and 31st March 2015.

Activity Reports

Download Name	Downloads
Maintenance Report February 2012	22
Maintenance Report March - April 2012	6
Maintenance Report May - June 2012	11
Activity Report June to December 2012	42

General Configuration Files

Download Name	Downloads
Sperm Whale Click and Dolphin Whistle Detection	43
Sperm Whale Click Detection	41
Porpoise Click Detection	42

Likelihood Detector Configuration Files

Download Name	Downloads
Sperm Whale	34
Humpback	30
Bowhead Whales	23
Beaked Whale	32
Readme File	50

PAMGuard Software

Download Name	Total	Windows	Linux	Mac
Beta 1.13.03	186	179	7	
Beta 1.13.02	265	245	18	
Beta 1.13.01	13	13		
Beta 1.13.00	62	49	13	
Beta 1.12.06	2	2		
Beta 1.12.05	103		985	
Core 1.6	38			
Beta 1.10.00	6	3		3
	675			

Publications

Download Name	Downloads
Free PAM software to improve marine mammal detection	44
A quick guide to PAMGuard	197
Free PAM software to improve marine mammal detection	56
PAMGUARD: Open Source Software For Real-time Acoustic Detection and Localisation of Cetaceans	47
Pamguard: Semiautomated, open source software for real-time acoustic detection and localisation of cetaceans	64

ROCCA Configuration Files

Download Name	Downloads
ETP Species Classifier	22

Details of registration information from the download pages are as follows:

Industry	Downloads
Oil & Gas	102
Civil Engineering	11
Offshore Wind	7
Tidal and Wave Energy	3
Academic Research	177
Other	87
Rather Not Say	24

Operation	Downloads
Real time mitigation	134
Abundance Estimation	51
Behavioural Research	90
Other	105
Rather Not Say	29

Geographic	Downloads
US	95
Europe	201
Africa	18
Australasia	13
Asia	14
Other	53
Rather Not Say	17

Location	Downloads
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Global	105
US	70
Europe	130
Africa	14
Australasia	16
Asia	13
Other	47
Rather Not Say	17