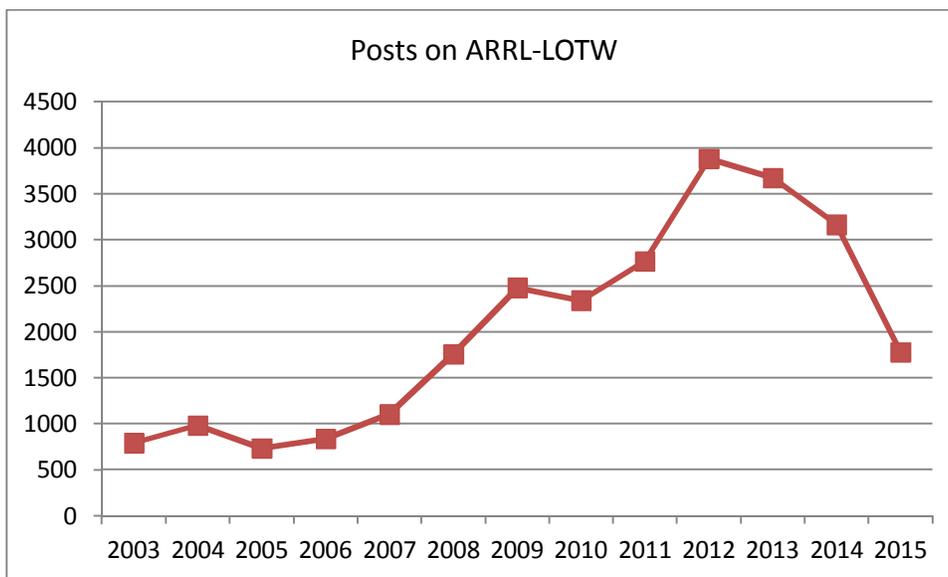## 2015 Report on Logbook of the World

Report to the ARRL Board of Directors, January 2016

The Logbook Study Committee (LSC) came into being at the 2013 meeting of the ARRL Board of Directors. The LSC identified a number of improvements that were needed. We also identified the "technical debt" that LoTW labored under, and the actions needed to remedy that situation. As we close the books on 2015, we have made sufficient progress in filling in the technological hole that we can undertake a limited number of key efforts that will maintain and extend Logbook's position as the premier method of confirming amateur radio contacts.
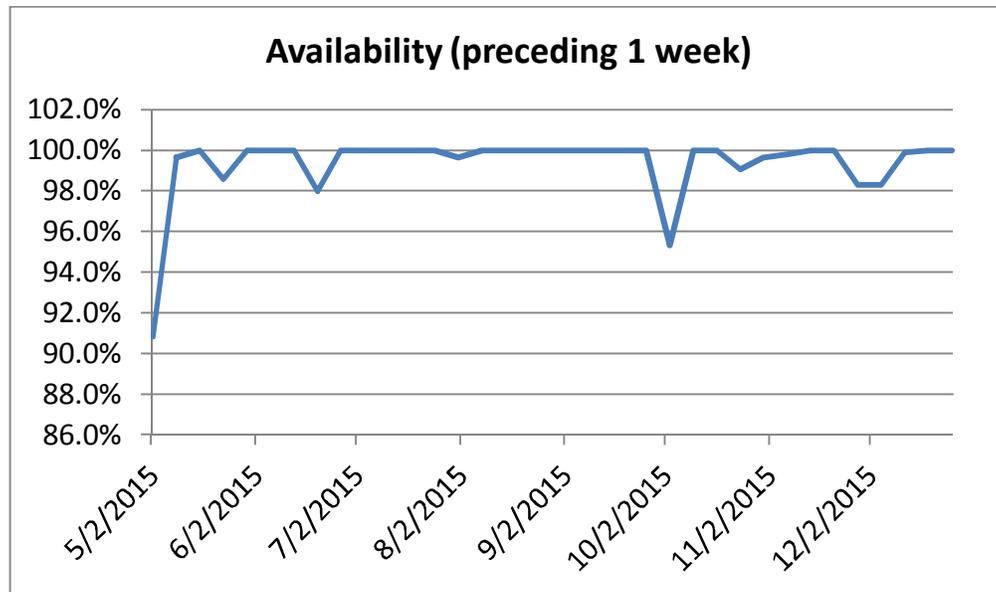
Online user group

In 2014, ARRL assumed ownership of the ARRL-LOTW Yahoo user group. This group was begun in 2003 by a foresighted exponent of LoTW, and continues today as a resource for the LoTW community. Due to the improvements in the functioning of LoTW in the last 3 years, the number of posts to the group, most of which are requests for and responses of support, has been declining over that time. The Logbook support function at ARRL also monitors the group and uses it as a source of information about problems, and a means of informing users about how to use Logbook most effectively and successfully. The graph below shows the volume of posts over time; through the end of 2015.

Uptime

The uptime of LoTW was a source of contention between ARRL and some users for some time. In May, Dave Bernstein AA6YQ, a member of the LSC, began running a monitoring application to assess LoTW's availability. The resulting 1-week percent uptime figures are shown in the graph below.

Of course, there are still occasional times when something disrupts LoTW accessibility, but post-contest logbook processing is now routinely uneventful, and complaints about accessibility have dropped to essentially zero.

Availability (preceding 1 week)

A line chart titled "Availability (preceding 1 week)" with the y-axis ranging from 86.0% to 102.0% in 2% increments, and the x-axis showing dates from 5/2/2015 to 12/2/2015 in monthly intervals. The availability line starts near 90.5%, rises quickly to near 100%, with occasional dips (to about 98% around 7/2/2015 and a notable dip to about 95.2% around 10/2/2015), otherwise remaining close to 100%.

Technical debt

As reported above, LoTW has made great strides in the last 3 years, but we have definitely not completely retired our technical debt. We continue to review the issues that are still to be dealt with at each meeting of the LSC. Activities around the Centennial QSO Party, and now the National Parks on the Air event, though well justified, temporarily siphoned off resources devoted to reducing the debt.

One of the programmers added in 2013 left ARRL in 2015, but was replaced by an internal hire, and so LoTW programming continues to have adequate support. A continuing challenge for the LSC is to focus on the reduction of technical debt, and not be distracted by nice-to-have enhancements, or well-intended projects that slow or even reverse our debt repayment.

Help

The LSC identified a need for better Help for users, and practically single-handedly, AA6YQ took a pass through the program and created up-to-date Help documents on a variety of questions, including frequently asked questions. By the end of 2015, a Search function has been added for this Help, and it is set up to help both new and existing users with their LoTW questions. A contract editor has been identified to maintain the LoTW Help, since the information in the original Help documents must be updated as the system evolves.

TQSL

TQSL is a support application which can be used directly for uploading QSO files to LoTW, or programmatically by logbook developers for data interchange between LoTW and the developer's own specific routines. Most logging programs utilize TQSL, since it provides a convenient and well-maintained interface that keeps up with changes and user-identified anomalies. In 2015, a new version of TQSL was released which supported the use of screen readers for users with special sight needs, language support besides English, and other improvements designed to help users avoid common mistakes, such as duplicate uploads. The program is maintained virtually single-handedly by Rick Murphy, K1MU, who deserves many thanks from the user community and ARRL. A new version supporting NPOTA activators was released just before yearend 2015.

Other award sponsors

For the most part, LoTW has existed to support confirmation of ARRL awards—WAS, VUCC and DXCC in particular. In 2012, support was added for CQ's WPX award.

In 2015, the LSC considered what would be needed to support other awards and sponsors, like CQ's WAZ and even non-United States sponsors. From past experience, the complexity of implementing WPX support within LoTW suggested that we re-think how LoTW supports award sponsorship. In 2014 we had implemented the Centennial QSO Party operating event as a separate web application, using LoTW only as a basis for confirming QSOs, and leaving computation of point values, etc., to be done by the web app. We realized that this provided a superior model for LoTW to support other awards. It required the creation of an API (Application Program Interface) to provide sponsors with query access to LoTW, while leaving the interpretation and award credit of those confirmed QSOs to their own applications. Accordingly, as the National Parks on the Air (NPOTA) operating event began to build, the LSC agreed that NPOTA should be programmed as if it were sponsored outside ARRL and, like the Centennial, not be created within LoTW. This method was used successfully, and the NPOTA programming completed, with the result that we now have a documented and working API that we can offer to other sponsoring organizations. We expect to ask sponsoring organizations to help defray the expenses of running LoTW, but details are not yet decided.

The LSC's goal for LoTW has always been to make it the premier confirmation source for amateur radio QSOs worldwide. Accordingly, we have begun talks with a number of other amateur radio organizations, and they are all interested in some sort of integration with LoTW. Several of these other groups provide additional services for users beyond logging and confirmation. LoTW in these cases would provide a complement to other databases, to the overall benefit of users, but would not attempt to duplicate others' analysis capabilities. Discussions with other sponsors are still in early stages, and discussions are sufficiently fragile that they cannot be identified here, but ARRL's critical difficulties with LoTW have been surmounted, in adequate time so that others have not yet built a competing database of comparable solidity and perceived reliability.

Improving User Registration

LoTW users outside the U.S. have had to send copies of their license documents to ARRL in order to become registered. Some individuals have objected to sending copies of official documents, and in any case, sending this represents an additional burden to international users. In the U.S., the burden of the corresponding authentication operation is assumed by using confirmation via the postal mail address of the applicant from FCC's ULS. Of course, this capability is not available outside the U.S. The LSC discussed this issue over several months in 2015, with the result that FSRS manager NN1N has developed an authentication procedure that can be used internationally following the logic and practices of the Field Checking that is available for DXCC cards. This process will be put in place in early 2016. There are also a significant number of registration requests that were never completed for various reasons, and staff is working through some of these, to help users who may have had trouble with earlier versions of LoTW.

Product Management and LoTW

LoTW is a system whose operation cuts across multiple departments at ARRL. One of the reasons that the LSC was formed is that by its nature, LoTW had no "owner" ultimately responsible for the availability and performance of the system. The LSC has functioned as that owner since its inception, and LSC or its equivalent will be needed to ensure continued responsibility for and ownership of the system.

de KØGW, for the Logbook Study Committee
January, 2016

Members:
KØGW, AA6YQ, N1VXY, NN1N, K1MK, K7GM, Doug Haney, Dennis Budd, N2ZZ, W3IZ