

## **Report of the Administration and Finance Committee January, 2024**

The 2022 audited financial results were provided to the Committee in November (2023) and the League's Auditor stated that the ARRL financial statements presented fairly, in all material respects, the financial position of The American Radio Relay League, Incorporated as of December 31, 2021 and 2022. The annual report was distributed to the board and is available for download on the League's website.

The Auditor prepared and filed the League's IRS Form 990 for the calendar year 2022.

The League's portfolio management duties were transferred to CAPTRUST in August of 2022. The fourth quarter of 2022 was the first full quarter where CAPTRUST has managed the investment assets of the ARRL. The ARRL Investment Management Committee reported that they have regular productive meetings with CAPTRUST.

The Strategic Working Group continued holding meetings (mostly weekly) and are exploring opportunities to expand amateur radio.

The Revenue Subcommittee reported good success with Amazon whereby ARRL publications are regularly in the top 20 product searches. Sales are increasing; such as the Ham Radio License Manual increased 33% by mid-year.

The Committee advanced a motion to the full board for the consideration of adding \$150,000. to the 2023 plan to support division conventions. The Board approved the motion and the program was referred to the ARRL Foundation for implementation. The Committee also advanced a motion to the full board to initiate a Ham Development and Training program, which was also approved by the Board.

The Committee participated with HQ in determining how to stabilize the League's finances in light of increases in costs while we are also seeing waning memberships. The League operated at a \$1.5 Million loss in 2021, and nearly \$2 Million loss in 2022. Due to the shrinking paper mill / printing industry coupled with the conversion to cardboard for the majority of those remaining, it has become cost prohibitive to continue printing and mailing monthly magazines to members at the current dues level. After a year-long review of financial options, the Committee recommended separating QST from membership and also raising the annual dues for members. The motion also suspended the Life Membership program pending an updated actuarial report from staff. The recommendation was forwarded to the Board which approved the motion. Any further action on the Life Membership program was deferred to the January 2024 A&F meeting.

The Committee discussed and recommended a motion to the Board that the series of articles for be created for publication in ARRL magazines to support and provide information on remote station operation.

The Committee reviewed the Staff initiatives to help get Technician Class licensees on the air. The Committee also reviewed the Revenue Growth Subcommittees report which had a focus on getting Amateur Radio embedded as part of STEM learning. These activities are continuing.

For the Committee:

Jeff Ryan, KØRM  
Chair

Members:

Mickey Baker, N4MB, Southeastern Division Director  
Fred Kemmerer, AB1OC, New England Division Director  
David Norris, K5UZ, Delta Division Director  
Richard Norton, N6AA, Southwestern Division Director  
Dan Grady, N2SRK, Rocky Mountain Division Vice Director  
Anthony Marcin, W7XM, Pacific Division Vice Director  
Bill Morine, N2COP, Roanoke Division Vice Director  
Brent Walls, N9BA, Central Division Vice Director  
Mike Raisbeck, K1TWF, 1st Vice President (Officer Liaison)  
John Sager, WJ7S, Treasurer  
Diane Middleton, W2DLM, Chief Financial Officer (Staff Liaison)

## LoTW Update—January 2024

Logbook Committee

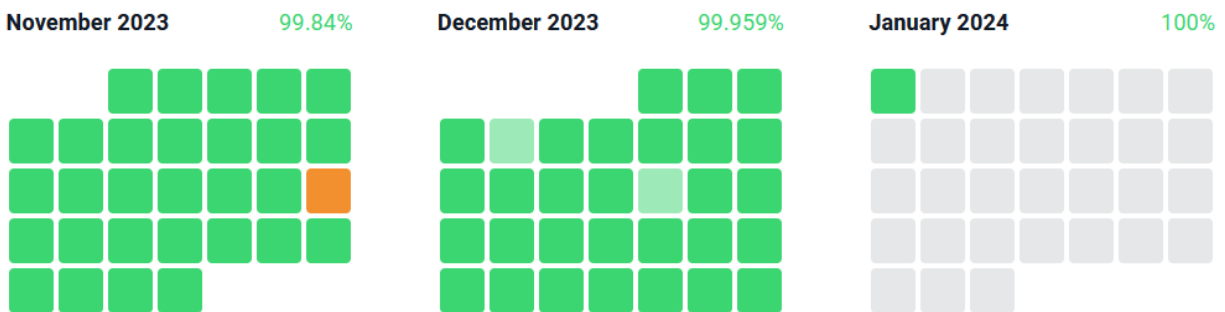
| Logbook of the World Status |  |
|-----------------------------|--|
| 1,831,824,295               | QSO records have been entered into the system. |
| 414,655,021                 | QSL records have resulted.                     |
| 180,220                     | Users are registered in the system             |
| 256,692                     | Certificates are active                        |
| 88,067,025                  | User files have been processed                 |

Growth rates in 2023 were about the same as growth rates for 2022. The numbers of users and certificates active are both up about 8%. The number of QSOs entered again grew about 12% and the QSL rate remained at about 20%. Interestingly, the number of user files processed was up only 32% compared with 2022's gain of nearly 39%. (status shown—1/1/24)

Recent activity on Logbook has been driven by: improved propagation; lifting of Covid restrictions; and increased adoption of single-QSO uploads.

### Availability

Availability of Logbook in the 90 days prior to January 1 has been 99.931%. This exceeds our announced 99% uptime goal. Most dips in availability end up being due to reachability of the Logbook servers, rather than reflecting operation of the Logbook site per se. Recent contest upload activity has been taken in stride, reflecting a cleanup of much of Logbook's processing.



### TQSL status

TQSL continues to be updated as issues are uncovered. K1MU has been able to use the FlatPak method for providing updates to users of the various Linux flavors. At this point, it is no longer possible to provide support for very old releases of Windows, such as Windows 2000. At some point, TQSL will need to drop support for these entirely. A major upgrade in TQSL interaction now provides an enhanced method for managing station location information, and looks much like a standard QSL card, making it more friendly and less error-prone. The database used by TQSL to keep track of submitted QSOs has been updated. In addition, elements of the user interface have been upgraded for better support of screen readers for users with low vision.

### Logbook Re-design and Logbook Support

Logbook has an ever-increasing number of users. But the intricacies of the current system are beyond what many users can or will deal with, leading to errors and ultimately increasing requirements for support. We estimate that more than half of support issues concern the management of the certificates that users must have to use Logbook.

Because Logbook support centers around management of certificates, this committee proposes an update to Logbook's login process that would be much more manageable and much easier for users to negotiate. The gist of the changes we are suggesting is discussed in [Appendix A](#) of this report.

The pace of support required has already required the addition of another person in Logbook support. But we expect implementing the update to reduce these demands substantially. In addition, the resulting improvement in Logbook's usability would improve user satisfaction.

The processes which maintain Logbook's security are separate from the computational and user-interface programs that Logbook uses today to: 1) ingest, 2) process, and 3) report users' contacts and their QSL matches. Our proposed re-design of the security front-end of the Logbook process will have no effect on those underlying programs. Logbook's database, computational and user interface processes will of course require re-design in their turn, but those processes will not be affected by the current proposal.

### **The VARA Problem**

In our last report, we noted that there is agitation to create a new VARA classification, though there is no support for VARA per se in ARRL's award offerings. Whether or not we should add this capability ends up being a policy decision, for which we have asked guidance from the PSC. We still have received no guidance from PSC, so adding VARA to Logbook is on hold.

We note that adding VARA cannot be accommodated in the current schema defining Logbook's underlying database. In other words, re-definition of Logbook's fields and additional programming would need to be done in order to add VARA to Logbook. This issue resulted from changes which were added to support a new WSJT-X mode without considering that future complex modes (like VARA) would be introduced. This is a problem which we believe is much wider than VARA itself, and will become increasingly urgent as the proliferation of new and innovative on-air protocols continues. The recent revision in FCC rules, to remove the symbol rate restriction and focus on bandwidth, will also accelerate this process. We believe that dealing with it cannot be avoided. But dealing with it *will not be possible* with the current level of programming resources assigned to Logbook. As we reported in January 2023, "Logbook continues its policy of supporting ADIF's representation for all fields it uses. However, as ADIF evolves, this will become increasingly difficult without major re-structuring of Logbook's database schema." We are now at the point where that restructuring is necessary.

### **WPX Memory Problem**

When certain high-volume users of the CQ Magazine WPX award access their records, they receive an "out of memory" error. Even when ARRL HQ uses its ability to "act as" one of these users, the same error occurs. This prevents end users from applying for the award endorsements earned, and HQ can't even do it for them. These people are unhappy, and there are more and more of them all the time. Thankfully, they are not launching any sort of protest yet. This has been going on for a long time, but it needs to be fixed, and some resources need to be allocated to fixing this problem.

**Competition**

With our January 2023 report, we noted the addition of JARL to the list of other awarding groups that are now accepting Logbook confirmations for their awards, without any contribution to Logbook's upkeep.

This is not an irretrievable situation. As discussed in our last report, there are ways in which ARRL could offer use of Logbook as an authentication source to the many awarding groups across amateur radio. As we noted in January, a beta version of a utility to perform a similar function was already available when programming support was withdrawn from Logbook; the programmer who created this is still an ARRL employee. We believe it is important for ARRL to become active in promoting Logbook's capabilities rather than continuing to squander Logbook's pre-eminence as the authenticator for amateur radio operating awards.

**Communicate, communicate, communicate**

The Board minutes from January 2023 describe the creation of an ad hoc Radiosport Platform Committee; today, one year after the meeting, neither the user community nor indeed this committee has been given any idea of the membership or progress of the ad hoc committee. This does not contribute to user confidence in Logbook.

Submitted by,  
Greg Widin, KØGW, Chair 2023  
for the Logbook Committee

Members: K3DGB, KØGW, W9JJ, K1MU/4, W5OV, K6WX, W7XM, Doug Haney

## APPENDIX A—Updating Logbook of The World

In the last few years, we have seen amazing growth in the number of QSOs logged on Logbook of The World. The rise of FT8 and other digital modes has contributed to this, and there has been an increase in the number of operators using Logbook that parallels the rise in Logbook's use.

All this activity has resulted in a considerable increase in the need for user support. A key focus of this need for support has been the frankly Byzantine system of certificate creation, installation and validation that accompany today's Logbook. While this system may have been needed in 2003 when Logbook originated, today other approaches to security have evolved, especially in the financial world. We believe the time has come to also evolve Logbook's methods of maintaining security to keep pace with the rest of the world.

Logbook today demands that users manage their "certificates" in some very specific and intricate ways. At the same time, those users are well aware that their financial transactions, including those of very high value, maintain high security without requiring them to deal directly with the mechanisms that maintain that security. Logbook can employ similar systems to maintain its high level of security, while reducing the overhead to users.

Today, the intricacies of certificate management mean that support staff is overloaded, to the extent that another employee has been required to supplement support availability.

The single largest category of user support required today is centered around certificates. To ameliorate this, as well as improving user satisfaction with Logbook, we propose to alter the way in which certificates are managed in Logbook's system.

Today, an application called TQSL—Trusted QSL—is the basis for maintaining certificates. Each user must have a copy of TQSL on his or her computer, and there are other restrictions on how specific computers can interact with Logbook. This process originated in 2003, when there were no other means to deal with certificates and when the assumption that users had Internet access was not valid.

The entire Logbook process, however, can be maintained at the same or improved level of security while providing storage of certificates in a central, web-based location. User login security can be maintained through other means, such as 2-factor authentication, with which users are much more familiar and accepting. Logbook's current procedures are sufficiently unusual that many users simply refuse to learn their intricacies, and rely on Logbook Support to help them through the process—or indeed to perform the process for them.

In this document, we will describe our proposed replacement for Logbook's current process, along with our transition approach to reach a more supportable environment, both for users and for ARRL Staff. We believe that improved structuring of the users' tasks will both de-complicate use of Logbook and make large parts of today's support requirements unnecessary.

The original design for Logbook of the World assumed a world very different from the current day. The system did not assume Internet access for users and created mechanisms that allowed them to interact offline. The other assumption was that users had only a single computer. Neither of these assumptions is true today.

The way a new user signs up for Logbook is overly complicated due to the use of Certificate-based authentication. This means that whenever a new callsign is used for Logbook, the owner

of that callsign uses TQSL to generate a "Certificate Request". That means generating a pair of "keys" that are mathematically related. With one of those, you can scramble some data in a way that it can only be unscrambled if you have the other half of the key pair. This allows Logbook to work: the user sends one of the keys to ARRL, who certifies their identity and returns the certificate to that user. Once they have that, they use the first key - which never leaves their computer—and is thus called the "private key"—to "sign" a QSO, which means adding a piece of data that states: (1) this is the precise QSO data; (2) who signed it; and (3) when it was signed. That signature is tamper-proof and traceable to the holder of the private key.

The result of all this is that ARRL has data for every QSO in the database that can be used to prove that it was indeed submitted by a particular operator.

This works well when it works, as TQSL manages the signature generation and upload. However, the Callsign Certificate adds a burden for users who use multiple computers. They can't sign on a computer without the private key or without the related certificate. While there's a backup operation to permit moving this data, it's obscure and causes the majority of the help desk calls looking for Logbook support.

We propose an incremental improvement in how TQSL operates that would dramatically improve the ease of use of TQSL.

- First, ARRL would build a repository for storage of the two components of the user's Callsign Certificate. Since the format of those follow standard cryptographic formats, existing cloud-based mechanisms could be used to store those.
- When TQSL is directed to sign a log where the required callsign certificate components are missing, it could retrieve them from the cloud on the fly.
- When TQSL is directed to request a new callsign certificate, those artifacts would be uploaded to the cloud service. This would correct the biggest current issue with certificate generation: you create the callsign certificate request on one computer and try to install it on another computer.

This will require Logbook to be able to authenticate users when they upload and download certificate components. We could rely upon the Logbook site for this (via a web service that requires logging in), or have logbook generate per-user "API Keys" that could be used to interact with the cloud certificate store.

TQSL will need to be updated to take advantage of the central store, but doing this work inside TQSL means that the interface to users' logging programs does not need to change.

This would be a significant usability improvement and lead to a significant reduction in helpdesk support calls.