

## FRRS Website 2020 Update

- Paul Finnegan  
Webmaster

In addition to keeping the society's website current and up-to-date, I continued to enhance and expand it in 2020. Many of the changes were behind the curtain and did not visually change the website, but improved performance, reliability, ease of maintenance and reduced cost.

### **Some of the changes that added functionality for the user included:**

Mobile Web Pages, a more friendly and uniform style of our top level web pages for the mobile user was implemented.

The Tour and Collection Pages were expanded with new pages and information. Some existing pages were corrected, based on an audit done by our Yardmaster, Steve Habeck.

A Google Custom Search tool was added to the Minutes & Reports page. This allows a user to do a Google search of ONLY the minutes and reports from the FRRS Board Meetings.

The RAL page was updated with new rates and levels.

The software behind the webcams was completely redone. The new software will prevent the race condition that sometimes showed images from the same camera twice rather than switching between our two cameras. The two-minute reset at the top of each hour was also eliminated.

The database behind the *Train Sheet* Master Index was redesigned to improve performance. Previously each link to a *Train Sheet* article went to a PDF file that had the whole issue. It was supposed to link to a specific page, but some browsers (especially mobile browsers) did not properly jump to the page. For mobile users the download time for the whole issue PDF file could also be very long. The system was redesigned so now only the page(s) for the requested article are downloaded.

I enhanced the Display FRRS Board Meeting Reports tool from the Minutes & Reports webpage to add an optional note to the link for the various reports. Some board reports contain multiple subjects and this helps the user more easily find topics.

I created 53 Sacramento Northern mobile friendly web pages based on the desktop versions that already existed.

### **Some of the changes behind the curtain included:**

I enhanced the weekly audit tool that runs automatically to check for broken links, spelling errors, etc. There are 47 possible errors, 11 things of note and 11 warnings that are checked each time the tool runs on every web page in our site. This enhanced tool helps ensure that the quality and consistency of the website is maintained over time.

Like every other public website, wplives.org is attacked almost every day. Since we have no sensitive information (e.g. credit card numbers or member addresses) on the website, there is little for the attackers to profit by. However, it creates problems for me because if the attacker succeeds in registering for crew or for crew training, then I have to go clean up the signup database. Our first line of defense has been the use of the reCAPTCHA, "I am not a robot" tool. Although this stops many attacks, over time, the robots have gotten smarter and it is not unusual for an attacker to get past it now. I have done a lot of cleanup on the website and have added significantly more logging and tracking capabilities. I have created new code that captures the user's IP address and then determines the country the IP address is registered in. This has enabled me to restrict appropriate cgi scripts to run only for US-based IP

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addresses, e.g. the crew training signup tool, which seems to be the most attractive tool attacked.

Working with Kerry Cochran, I have created and deployed a new audit tool to check all the FRRS, WPRM and Arthur Walter Keddie Library Policies and Procedures. It creates a report showing which (if any) polices are past their review dates, which need review this year and which are OK. It also checks several webmaster potential issues for the Museum Policies web page. I have configured the tool to run automatically once a month on the 15<sup>th</sup>. This tool will simplify the maintenance and review of our policies.

2019 Top Web Pages			2020 Top Web Pages		
Total pageviews in 2019 = 149,392			Total pageviews in 2020 = 127,525		
	Pageviews	%		Pageviews	%
WPRM Webcam	27,650	18.51%	WPRM Webcam	27,795	21.80%
WPRM Home	27,345	18.30%	WPRM Home	23,722	18.60%
WPRM RAL	7,414	4.96%	WPRM Collection	4,578	3.59%
WPRM-Collection	4,185	2.80%	WPRM RAL	3,582	2.81%
SN Home Page	3,353	2.24%	SN Home Page	3,274	2.57%
WPRM Locomotives	2,593	1.74%	WPRM Locomotives	2,514	1.97%
WPRM Trainride	2,522	1.69%	WPRM Archives	2,021	1.58%
WPRM Archives	2,430	1.63%	WPRM Steam	1,483	1.58%
WPRM Visit Us	2,226	1.49%	WPRM Visit Us	1,331	1.04%
WPRM Steam	1,582	1.06%	2020 Closure	1,278	1.00%
WPRM Santa Trains	1,309	0.88%	WPRM Trainride	1,022	0.80%
Rotary Run 2019	1,223	0.82%	Boxcars	975	0.76%
Train Sheets	1,090	0.73%	2020 Convention	884	0.69%
WPRM-Calendar	1,090	0.73%	Minutes & Reports	850	0.67%
Minutes & Reports	947	0.63%	Passengercars	800	0.63%
WPRM Museum Tour	926	0.62%	Freightcars	730	0.57%
Pumpkin Trains 2019	922	0.62%	Operations	657	0.52%

**Web Hosting Move**

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For a long time (probably since May 27, 2008), the FRRS had used Hostmonster as the website service provider. I became the FRRS webmaster in fall of 2015. Over the past five years, the paradigm of the society website has changed from a static, desktop-centric website to a custom, mobile-friendly, interactive, highly-automated website with significant data-management capabilities.

Although the services promised by Hostmonster were capable of supporting this expanded paradigm, the actual service provided proved to fall short. We had four serious (multi-day) and two minor service interruptions due to Hostmonster’s negligence and/or lack of expertise. In addition to the actual service interruptions, some of the tools/methods at Hostmonster required me to implement our website in strange coding/design/deployment methods to function at Hostmonster.

For several years, Kenneth Finnegan had encouraged me to abandon Hostmonster and move the web service to a dedicated server. Kenneth’s suggestion was not to go to a new web hosting service, but rather rent a virtual server at a data center and administer the system ourselves. I was reluctant to pursue this kind of solution because I thought the

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support services provided by a hosting company would outweigh the advantages of going stand-alone. I did not want to just change the hosting service vendor since the reviews I kept reading said they are all bad once you stop using the very simple, basic, click-and-drag created websites. Thus, the devil we knew might be better than the unknown devil of a new provider.

Hostmonster's service convinced me I was wrong. Details of the issues are in the September 2020 New Business 3 and Webmaster Reports under Members-> Minutes & Reports on the website.

Kenneth Finnegan and I did a considerable amount of work over the prior several months to establish a proof-of-concept system that we demonstrated to select members of the FRRS Board before the September meeting. It was decided at the September FRRS Board Meeting, to move the web hosting service from Hostmonster to a system fully under our control. Before the actual complete migration, the webcam service and the wplives.org email service were migrated to the new system.

On Saturday, September 26<sup>th</sup>, Kenneth and I completed the move from Hostmonster to our new server on Kenneth's PhirePhly Design network located at Hurricane Electric's FMT2 data center in Fremont, California. The website, the wplives.org email system, and our sub-domains are now fully under our control. Additionally, we moved our domains to Google Domains and our DNS service to Cloudflare. We no longer have any relationship with Hostmonster.

PhirePhly Design is hosting the virtual machine gratis, thus saving the society the cost of web hosting every month. The end user of the website should not notice anything different, except improved performance and reliability.

### Museum Sponsors

The Western Pacific played a major role in developing the economy of Plumas County and the surrounding region. The Western Pacific Railroad Museum is proud to be a part of that heritage and to hold a position in supporting the ongoing economic health of our community. We welcome the support of that community in return. Helping to preserve the Western Pacific is good for tourism, good for our regional culture and good for business.

We ask our members and visitors to support our business sponsors, companies who have generously contributed to the museum and its mission to preserve the Western Pacific family.

If you are a business owner, see how you can support the WP Museum, your community and improve your advertising and networking outreach through our sponsorship program. See [www.wplives.org/sponsors\\_how\\_to\\_become.html](http://www.wplives.org/sponsors_how_to_become.html) to learn how.



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