

BEYOND CONNECTIVITY.

COMPANY CASE STUDY

**FORTY-NINE ACRES.
WIFI SANK FAST.
WE MADE IT SAIL.**

How Metro Wireless modernized marina connectivity at MacRay Harbor with new gigabit wireless backhaul and WiFi access points, centralized cloud management, and a scalable wireless infrastructure that turned poor signal into a premium experience.



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WIFI THAT FLOATS BOATS

HOW METRO WIRELESS UPGRADED MACRAY HARBOR'S 49-ACRE CAMPUS TO MODERN AND RELIABLE WIFI CONNECTIVITY.

CLIENT DETAILS:

Name: MacRay Harbor
Industry: Marinas and RV Parks

About: More than a marina, MacRay Harbor takes pride in being the perfect place to host a wedding, or enjoy a night out with your family & friends. MacRay offers hundreds of boat slips and maintains an HOA for its condo development.

Key challenges included:

- Outdated WiFi 4 hardware couldn't support modern demands like streaming or remote work
- No centralized network management; all troubleshooting was reactive
- Frequent outages and sub-10Mbps speeds frustrated users
- Guests resorted to personal solutions to stay online
- Poor connectivity hurt the harbor's reputation and operational efficiency

OVERVIEW

Metro Wireless embarked on a comprehensive project to upgrade MacRay Harbor's outdated WiFi infrastructure. Located on Lake St. Clair near Detroit, Michigan, MacRay Harbor spans 49 acres and offers over 200 dock slips, catering to seasonal members and transient boaters alike.

The existing WiFi network, installed nearly a decade ago, was no longer meeting the modern connectivity needs of its users.

Users reported slow or non-existent connections, with some resorting to personal solutions like Starlink. **The network was also poorly managed, lacking proactive monitoring and monetization capabilities.**

Metro Wireless was tasked with designing, deploying, and managing an upgraded WiFi network to enhance the user experience and support the harbor's operational needs.



THE CHALLENGE

The MacRay Harbor faced several critical challenges with its existing WiFi network, which had become increasingly inadequate over time.

The infrastructure was outdated, relying on obsolete WiFi 4 hardware that could no longer meet the bandwidth demands of modern usage, such as HD streaming and video conferencing.

Additionally, the harbor had no effective network management system in place, resulting in a reactive approach to technical issues, rather than a proactive one.

These issues culminated in widespread user dissatisfaction, with boaters frequently experiencing unreliable internet connections that hindered their ability to work remotely or enjoy digital entertainment on board.



Metro Wireless's WiFi coverage heatmap design for MacRay Harbor



Fried ethernet connectors from old WiFi network

Key issues identified:

Outdated infrastructure

- WiFi 4 hardware no longer meets modern connectivity needs
- Inadequate for high-bandwidth activities like HD streaming and video calls

Poor network management

- No proactive tools to monitor or resolve network issues
- Reactive troubleshooting caused prolonged downtimes

User dissatisfaction

- Unreliable connections frustrated users
- Negative impact on remote work and onboard entertainment

Download

0.36
Mbps

During our on-site speed test results, most access points around the harbor's campus were testing below 10Mbps

Upload

0.23
Mbps

THE SOLUTION

Infrastructure overhaul

Metro Wireless upgraded the harbor's electrical and power systems to support the new WiFi infrastructure. The structured cabling work included the installation of waterproof and secure NEMA enclosures to prevent unauthorized disconnections and ensure the reliability of the network.

Advanced hardware deployment

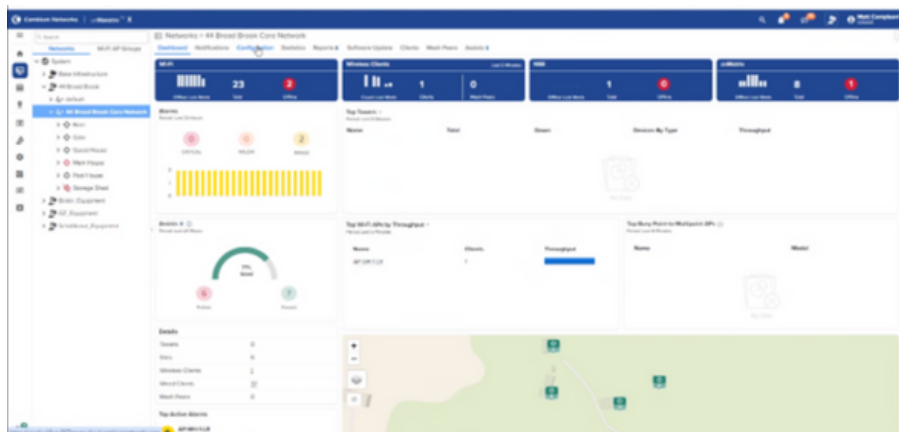
To provide high-speed connectivity across the harbor, Metro Wireless installed Cambium XV2-23T outdoor WiFi 6 access points.

These access points offer dual-band operation (2.4 GHz and 5 GHz) with 2x2 MU-MIMO technology, supporting up to 256 clients and 16 SSIDs. The rugged, NEMA 4X-rated enclosures ensure durability in outdoor environments.

Cloud based management

Metro Wireless utilized Cambium's **cnMaestro X** portal for **centralized, proactive network management**. This cloud-based platform offers features such as:

- Real-time monitoring and troubleshooting
- Automated firmware updates
- Performance analytics
- Guest access management
- Integration with Cambium's cnWave 60 GHz backhaul system



Cambium's CnMaestro X Portal Overview



New NEMA mounted on site to upgrade the harbor's electrical and power systems



New Cambium WiFi 6 Outdoor AP

THE RESULT

The newly upgraded network at MacRay Harbor brought significant improvements across several critical areas.

Users immediately experienced enhanced connectivity, with **faster speeds and reliable performance that met the demands of modern applications like streaming and video conferencing.**

Operationally, implementing proactive network management tools **drastically reduced downtime and maintenance needs**, allowing the harbor staff to focus on other priorities.

Furthermore, MacRay now has the capability to offer a tiered monetization model on their WiFi network; turning the WiFi service from a cost center into a revenue-generating asset. Finally, the system was designed with scalability in mind, ensuring it could grow and evolve as the harbor's needs expanded in the future.

Key benefits delivered:

- **Enhanced user experience**
 - Improved WiFi speed and reliability
 - Seamless support for high-bandwidth applications
- **Operational efficiency**
 - Proactive monitoring reduced downtime
 - Streamlined maintenance processes
- **Scalability**
 - Modular system design supports future expansion
 - Easily adaptable to increased user demand and new areas



CONCLUSION

Metro Wireless's comprehensive approach **transformed MacRay Harbor's WiFi infrastructure**, delivering a modern and reliable user experience.

From the initial discovery call to testing and go-live, **the project was completed in under three months**, aligning with the harbor's peak boating season.

Metro Wireless demonstrated the importance of upgrading infrastructure, implementing modern WiFi and wireless backhaul, and adopting proactive management practices to meet the needs of outdoor recreational users.

STILL LETTING YOUR GUESTS COMPLAIN ABOUT “ONE BAR” AND DEAD ZONES?

Metro Wireless makes WiFi actually work— rain, waves, and fried Ethernet jacks included.



READY TO DEPLOY WI-FI THAT WORKS LIKE A BUSINESS ASSET— NOT A LIABILITY?
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