An Overview of Spectrum Management: *What, Why and How…*

Eric Rosenberg
NTIA Office of Spectrum Management
Spectrum Affairs and Information Division
erosenberg@ntia.gov

June 27, 2022

What is Spectrum Management?

Wikipedia says:

"Spectrum management is the process of regulating the use of radio frequencies to promote efficient use and gain a net social benefit."

Is this too simplistic?

What do you think?

Why is Spectrum Management Important?

Spectrum is a basic building block for the future of telecommunications.

Effective spectrum management allows government and private industry to achieve their goals, co-exist and grow.

Why is Spectrum Management Important?

Spectrum supports

- *Government:* public safety, infrastructure and services (utilities, weather reporting and forecasting, air traffic control, etc.), science and research.

- *Private Industry:* broadcasting, various wireless services, data monitoring, mobile and fixed broadband (Wi-Fi), "traditional" land mobile and microwave services, Bluetooth.

Why is Spectrum Management Important?

NTIA's Spectrum Management Functions

- Foster economic growth
- Ensure our national and homeland security
- Maintain U.S. global leadership in communications technology development and services
- Satisfy other vital U.S. needs in areas such as public safety, scientific research, Federal transportation infrastructure, and law enforcement.

Why is Spectrum Management Important?

If there are no controls, the result is CHAOS:

- Interference, decreased performance, inability to expand existing services or introduce new and enhanced services.
- Results could be life-threatening!

How is Spectrum Management Carried Out?

- Development of policy and rules:
  Collaboration with all stakeholders and legislators
- Implementation of policy and rules:
  Set realistic milestones
- Enforcement of rules:
  Active monitoring of the spectrum

Is Spectrum Management A New Concept?

NO!

The International Telecommunications Union established the International Radio Consultative Committee or CCIR in 1927 (became the ITU-R in 1992).

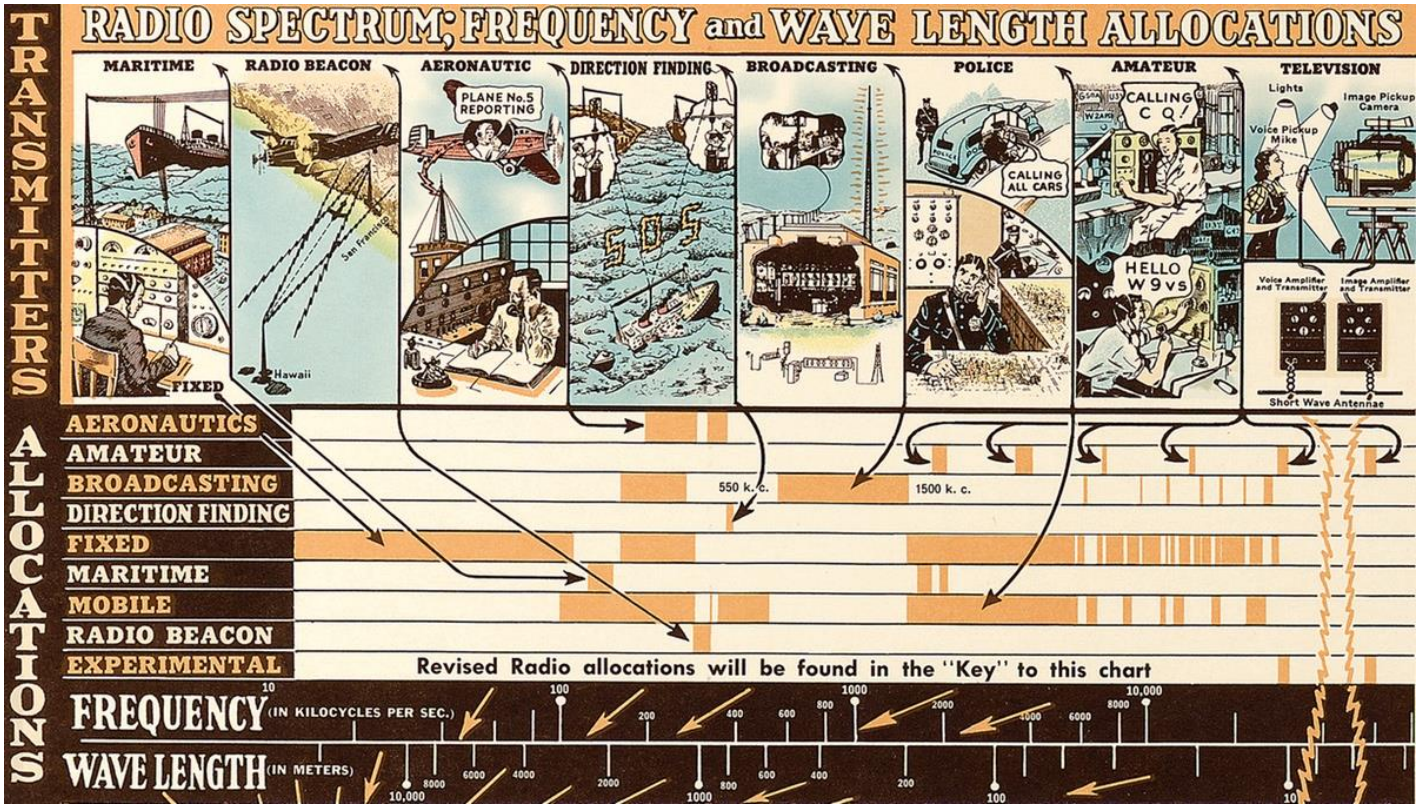
The U.S. established the Interdepartment Radio Advisory Committee in 1922 (transferred to the Department of Commerce in 1927).

Is Spectrum Management Still Important?

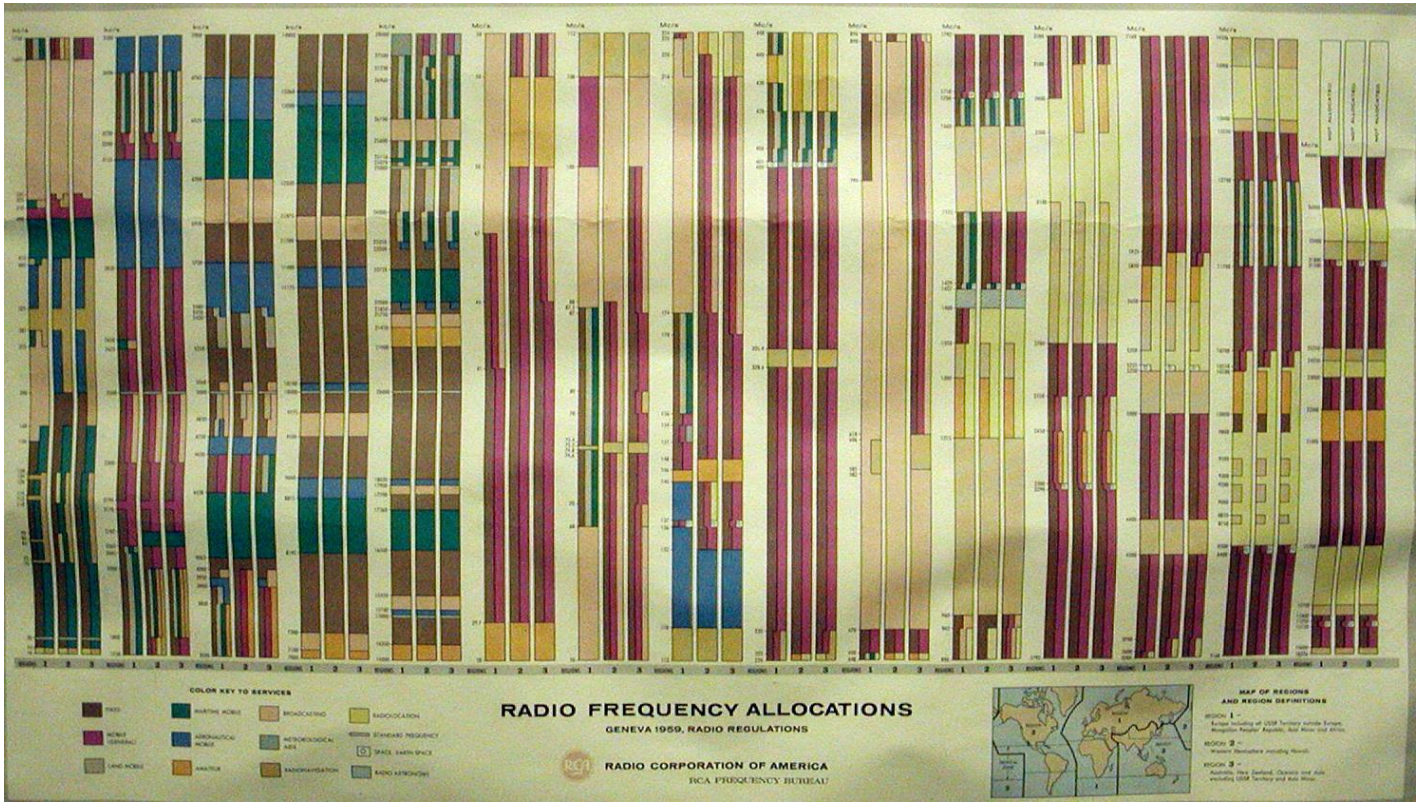
YES!

As the demands for spectrum increase, the importance of effective spectrum management and the role of the spectrum manager is that much more important.

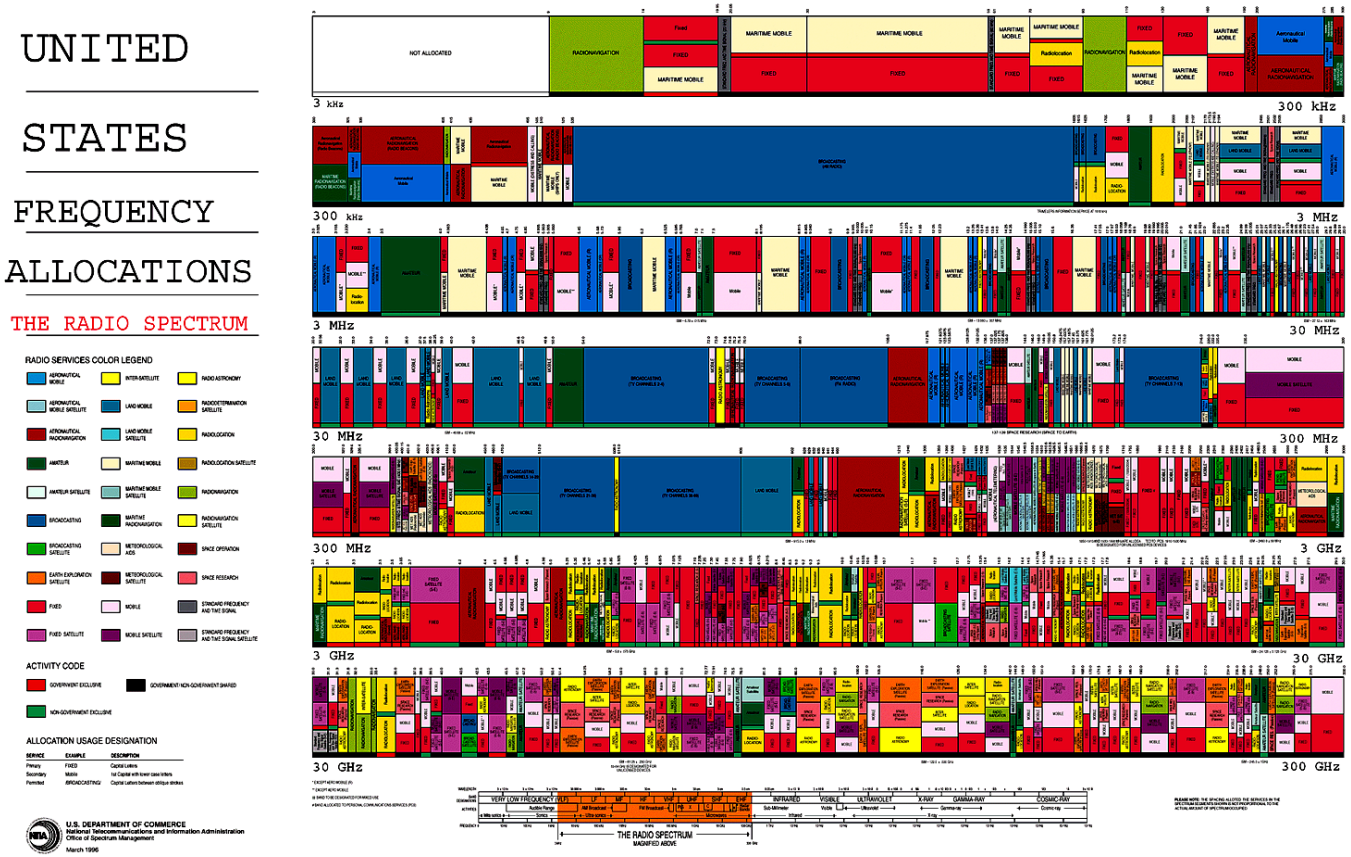
Spectrum Use Over the Years



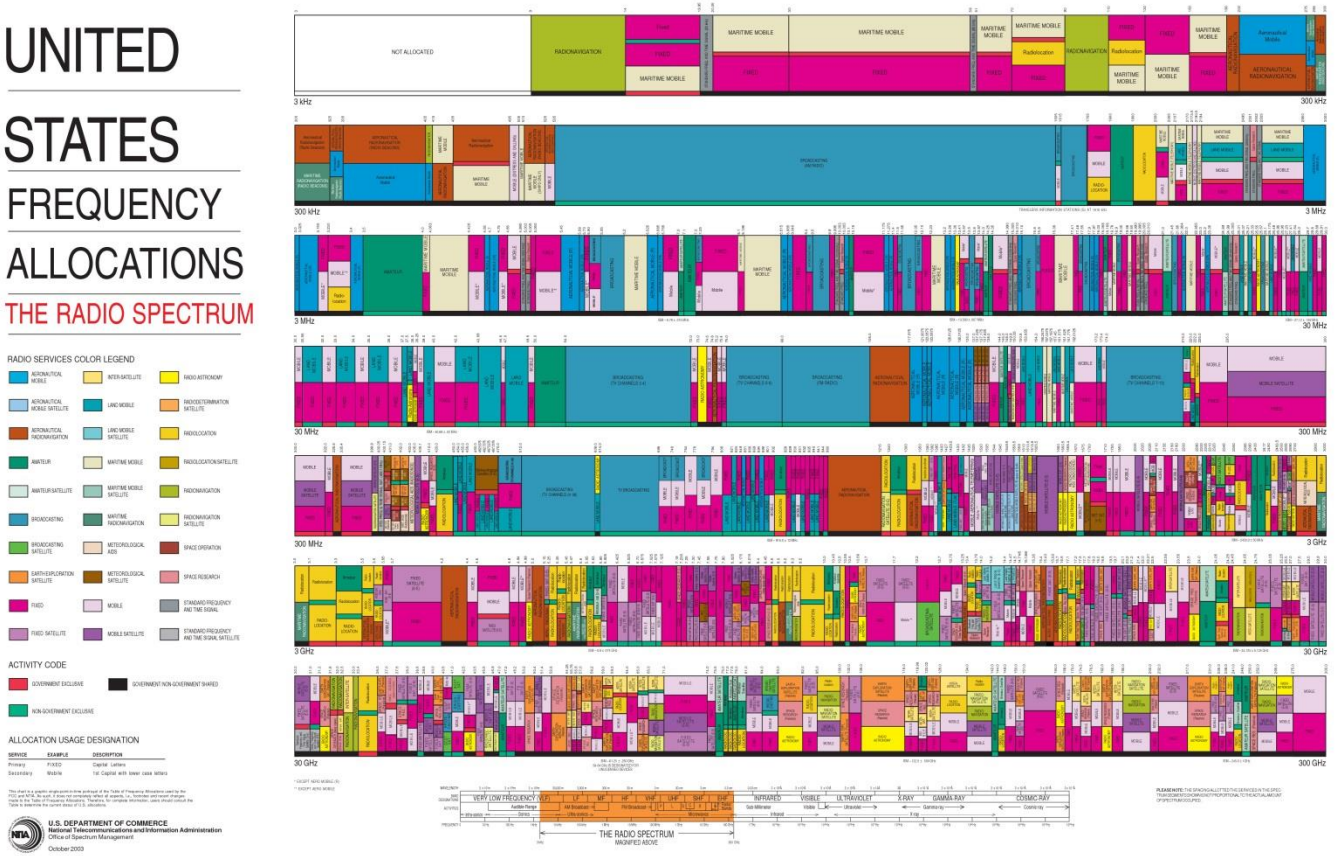
Spectrum Use Over the Years



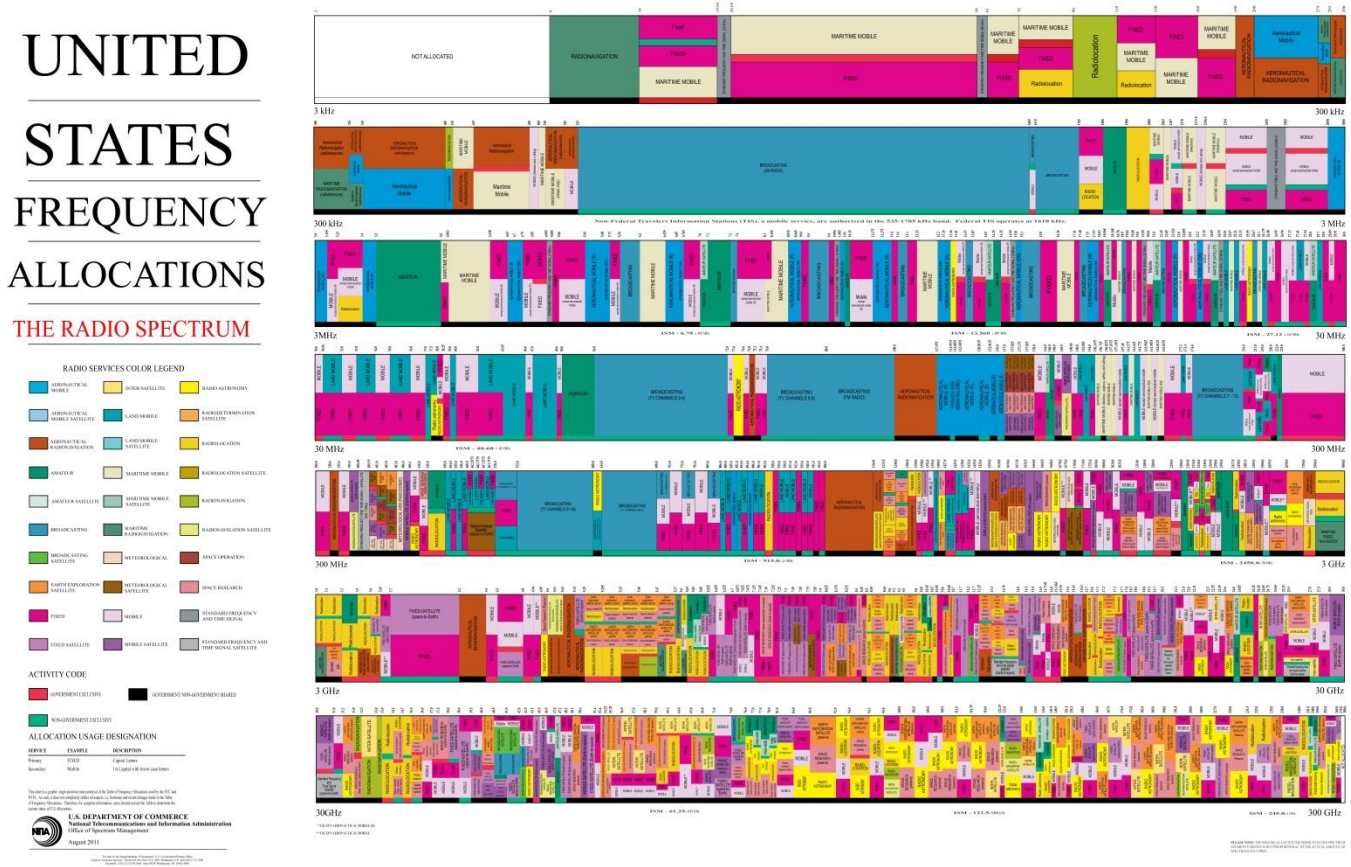
Spectrum Use Over the Years



Spectrum Use Over the Years



Spectrum Use Over the Years



Questions?

Comments?