Audio File Type Guide
Digital Stewardship Curriculum

There are three types of audio quality: uncompressed, lossless, and lossy. Uncompressed audio keeps all the quality of the original source intact, lossless compresses audio for less space while maintaining quality, and lossy audio compresses the files more for saving space at a slightly reduced quality. **To keep it simple, we recommend using WAV file format (uncompressed) for your archival master copy, and MP3 (lossy) as your access copy.** However, here are explanations of these and several other audio formats in a bit more detail.

Uncompressed

- **WAV:** An uncompressed format, which means it is an exact copies of the original source audio. The standard audio file format used mainly in Windows PCs. Commonly used for storing uncompressed (PCM), CD-quality sound files, which means that they can be large in size - around 10MB per minute of music.

- **AIFF:** AIFF is made by Apple, so you may see it a bit more often in Apple products. Also uncompressed, this format is like WAV, but a little less widely used. Since both these formats are uncompressed, they take up a lot of space.

Lossless

- **FLAC**: The Free Lossless Audio Codec (FLAC) is the most popular lossless format, making it a good choice if you want to store your music in lossless. Unlike WAV and AIFF, it's been compressed, so it takes up a lot less space. However, it's still a lossless format, which means the audio quality is still the same as the original source, so it's much better for listening than WAV and AIFF. It's also free and open source, but only certain media players will open this type of file (for example, VLC Media Player).

- **Apple Lossless**: Also known as ALAC, Apple Lossless is similar to FLAC. It's a compressed lossless file, although it's made by Apple. Its compression isn't as efficient as FLAC, so files may be a bit bigger, but it's fully supported by iTunes and iOS (while FLAC is not).

- **APE**: APE is a very highly compressed lossless file, meaning you'll save the most space. Its audio quality is the same as FLAC, ALAC, and other lossless files, but it isn't compatible with nearly as many players (must download a plugin or extension to play in most popular media players). They also work your processor harder to decode, since they're so highly compressed.

Lossy

MP3: MPEG Audio Layer III, or MP3 for short, is the most common lossy format around. So much so that it's become synonymous with downloaded music. MP3 is the most well-supported of lossy formats and is compatible with most media players.

AAC: Advanced Audio Coding, also known as AAC, is similar to MP3, although it's a bit more efficient. That means that you can have files that take up less space, but with the same sound quality as MP3. It is almost as widely compatible with MP3.

Ogg Vorbis: The Vorbis format, often known as Ogg Vorbis due to its use of the Ogg container, is a free and open source alternative to MP3 and AAC - but that does not affect users for the most part. It's much less popular than MP3 and AAC, meaning it is less supported.

WMA: Windows Media Audio is Microsoft's own proprietary format, similar to MP3 or AAC. It doesn't offer any large advantages over the other formats, and it's also not as well supported as MP3 or AAC.

Additional Sources:
- Wikipedia: https://en.wikipedia.org/wiki/Audio_file_format
- NCH Software: http://www.nch.com.au/acm/formats.html
- JISC Digital Media: http://www.jiscdigitalmedia.ac.uk/infokit/file_formats/digital-audio-formats-and-compression