

Accessibility and Websites

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Zoom location for workshop:

<https://rutgers.zoom.us/j/94026238135?pwd=U1ptZHVDQThKR0Myd01FK0Q5Qk51UT09>

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ACCESSIBILITY AND WEBSITES

GETTING STARTED

1. If you are working from home or another off-campus location, log on to the Rutgers VPN from your computer; you can find instructions here:

<https://sasit.rutgers.edu/how-to-guides/working-remotely/vpn-instructions>

2. Open a web browser on your computer (Firefox, Chrome, or Safari)
3. Go to the website: <https://www.sas.rutgers.edu/cms/training>

WHAT IS ACCESSIBILITY AND WHY IS IT IMPORTANT?

Accessibility is the extent to which anything (such as websites, mobile devices, computer software, or anything with a user interface) can be used or understood by anyone, regardless of whether or not they have a disability. When we say that a website is “accessible,” we mean that the information on it can be equally accessed by anyone.

There are many reasons why we should make our websites as accessible as possible:

- It improves the usability of the website for everyone – not just people with disabilities
- Approximately 26% of Americans have some kind of disability
- Almost everyone will experience some kind of disability at some point in their lives (e.g. due to injury or aging)
- It’s the law (Compliance with Americans with Disabilities Act)
- It’s the right thing to do!

Making a website usable for people with disabilities makes it usable for everyone:

http://etec.cltt.ubc.ca/510wiki/images/4/47/Clearing_a_pat.png

ACCESSIBILITY TESTING

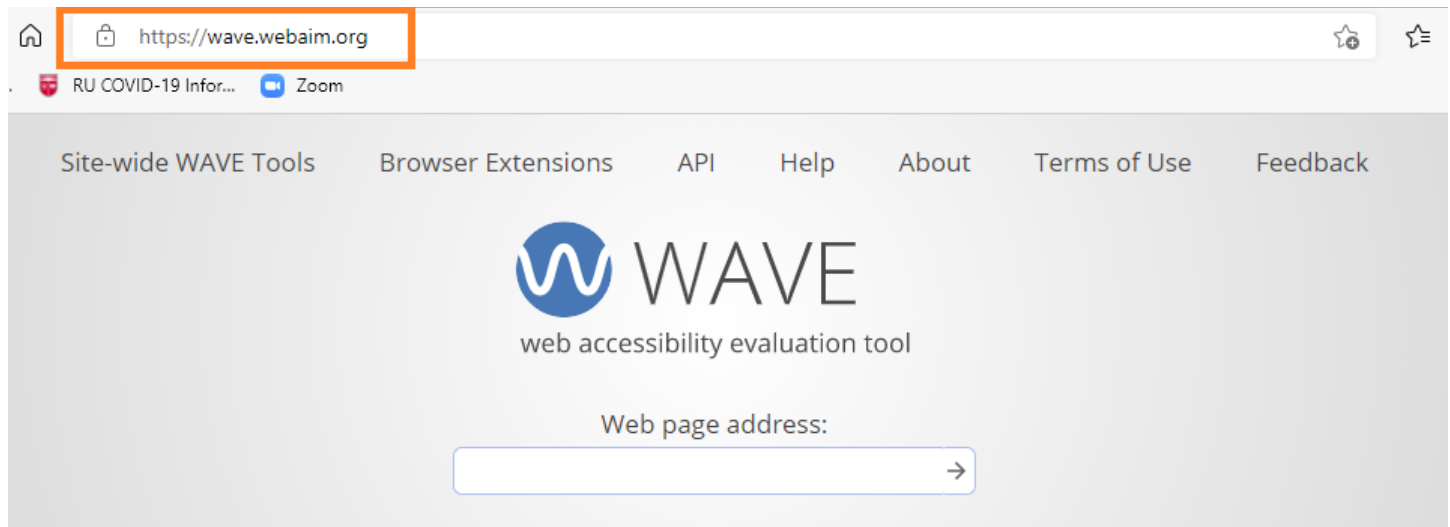
There are several free tools for analyzing the accessibility of websites. For this workshop, we will focus on the WAVE Web Accessibility Evaluation Tool, found at <https://wave.webaim.org/>. This tool scans a web page and reports any accessibility problems it finds. (Note: the WAVE Tool does not scan the entire website, only the specific page whose link you enter).

LIMITATIONS OF AUTOMATED TESTING

Some accessibility issues can’t be automatically detected by software. This is because software applications can’t always interpret the meaning of content. Something may be technically correct as far as the software is concerned, but may still present issues for users with disabilities. We will learn how to identify and fix some of these types of problems.

USING THE WAVE TOOLBAR

1. First, go to the **WAVE Web Accessibility Evaluation Tool** website at: <https://wave.webaim.org/>



WAVE Web Accessibility Evaluation Tool

WAVE is a suite of evaluation tools that helps authors make their web content more accessible to individuals with disabilities. WAVE can identify many accessibility and Web Content Accessibility Guideline (WCAG) errors, but also facilitates human evaluation of web content. Our philosophy is to focus on issues that we know impact end users, facilitate human evaluation, and to educate about web accessibility.

You can use the online WAVE tool by entering a web page address (URL) in the field above. [WAVE Firefox and Chrome extensions](#) are available for testing accessibility directly within your web browser - handy for checking password protected, locally stored, or highly dynamic pages. We also have a [WAVE Runner service](#), [subscription WAVE API](#) and a [stand-alone WAVE API](#) for easily collecting data on many pages. If you need enterprise-level reporting and tracking of accessibility, WAVE powers the [Pope Tech accessibility tool](#).

2. Copy the link for a web page to test, and paste it into the Web page address field on the WAVE website:



3. Click the arrow or press [Enter] to test the page
4. The WAVE website will display a summary of issues on the left, and will indicate where on your web page the issues are occurring:

The screenshot shows the WAVE accessibility checker interface. On the left, a 'Summary' panel provides an overview of issues found on the page:

- Errors: 1
- Contrast Errors: 0
- Alerts: 8
- Features: 11
- Structural Elements: 33
- ARIA: 4

A 'View details' button is located at the bottom of the summary panel. The main area on the right shows a preview of the webpage with various accessibility issues highlighted by icons and labels:

- h1 Accessibility**: A red error icon indicates a problem with the main heading.
- h2 Eddie K Article 1**: A red error icon indicates a problem with the article heading.
- h4 Contact information**: A red error icon indicates a problem with the contact information heading.
- Click here**: A red error icon indicates a problem with a link.
- h2 More important stuff**: A red error icon indicates a problem with the heading.
- h4 A list of things I like:**: A red error icon indicates a problem with the heading.
- 1. Coffee**, **2. Baseball**, **3. Music**: A list of items under the heading.
- This is a really important note that I would like to stand out from the rest of the paragraph.**: A red error icon indicates a problem with the text.
- h3**, **h-**: A red error icon indicates a problem with the heading.

A large image of a starry night sky is visible on the right side of the preview.

Our goal will be to address as many of the errors and alerts as possible. We will walk through the process of fixing one page together, then we will each practice fixing another page on our own.

DEMONSTRATION: FIXING ACCESSIBILITY ISSUES ON A WEB PAGE

LOGGING ON TO THE FRONT-END

Click the Login link at the bottom of the website; then login with your NetID:

The screenshot shows the footer of a website with a dark grey background. It is divided into three main sections: 'Connect with Rutgers', 'Explore SAS', and 'Follow Us'. The 'Connect with Rutgers' section lists links like Rutgers Home, Rutgers Today, myRutgers, Academic Calendar, Calendar of Events, SAS Events, and Support Rutgers. The 'Explore SAS' section lists links like SAS Home, Departments & Degree-Granting, Programs, Majors & Minors, Research Programs, Centers, & Institutes, Division of Life Sciences, and Support SAS. The 'Follow Us' section contains Facebook and Twitter icons. Below these sections is a horizontal navigation bar with links: Home (highlighted in red), Site Map, Search, IT Help, Website Feedback, and Login (highlighted with an orange box and an orange arrow pointing to it from the right). At the bottom left of the footer is a 'Back to Top' button. The footer also contains copyright information and accessibility contact details.

Connect with Rutgers

- Rutgers Home
- Rutgers Today
- myRutgers
- Academic Calendar
- Calendar of Events
- SAS Events
- Support Rutgers

Explore SAS

- SAS Home
- Departments & Degree-Granting
- Programs
- Majors & Minors
- Research Programs, Centers, & Institutes
- Division of Life Sciences
- Support SAS

Follow Us

[f](#) [t](#)

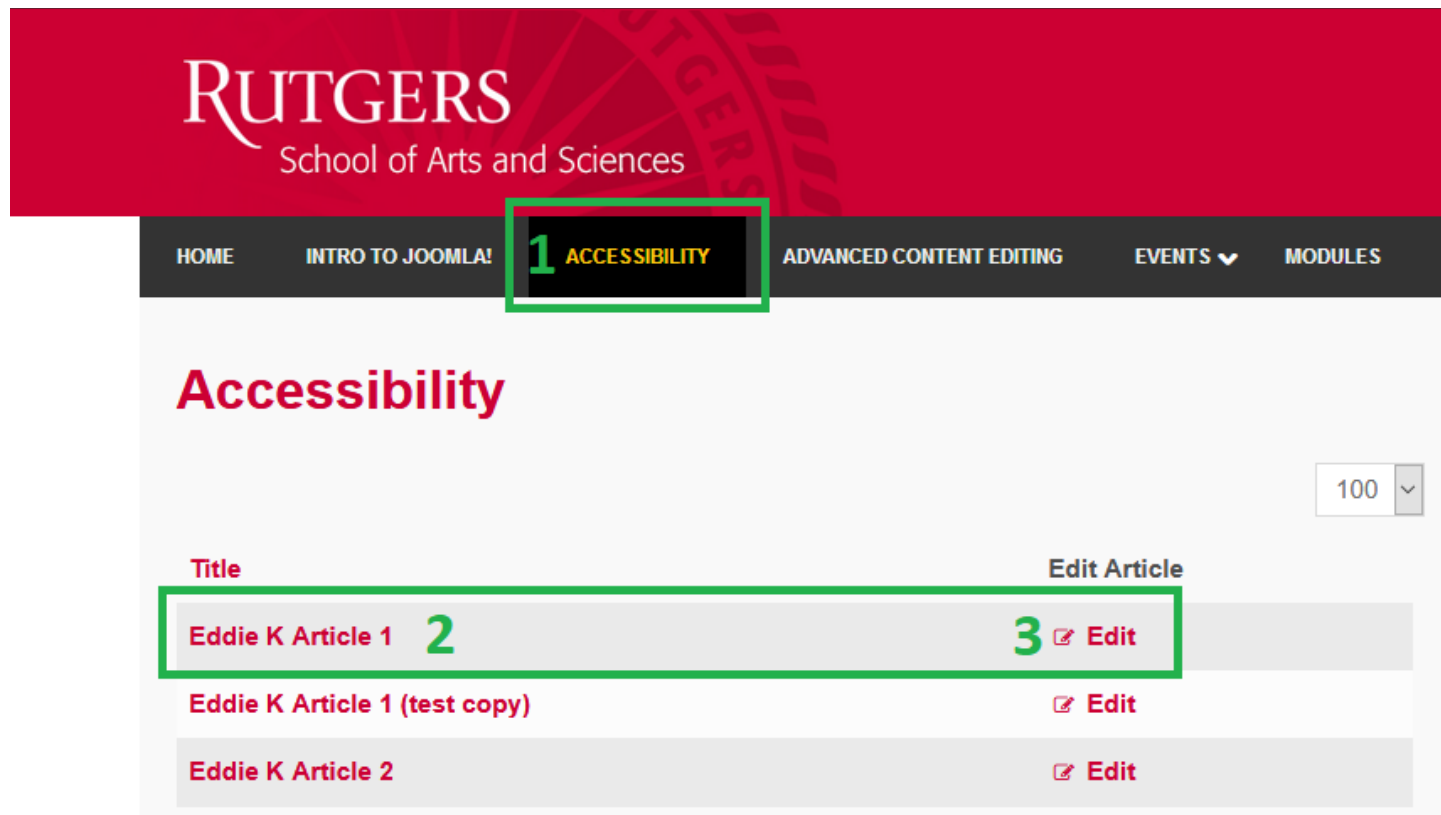
[> Home](#) [Site Map](#) [Search](#) [IT Help](#) [Website Feedback](#) [Login](#)

[Back to Top](#)

Copyright 2021, Rutgers, The State University of New Jersey. All rights reserved.
Rutgers is an equal access/equal opportunity institution. Individuals with disabilities are encouraged to direct suggestions, comments, or Rutgers web sites to: accessibility@rutgers.edu or complete the [Report Accessibility Barrier or Provide Feedback Form](#).

FIND AND EDIT ARTICLE 1

1. Click on the **ACCESSIBILITY** link on the main menu (see #1 below)
2. Find the article starting with your name and ending in "Article 1" (see #2 below)
3. Click the **Edit** link to the right of your "Article 1" (see #3 below)



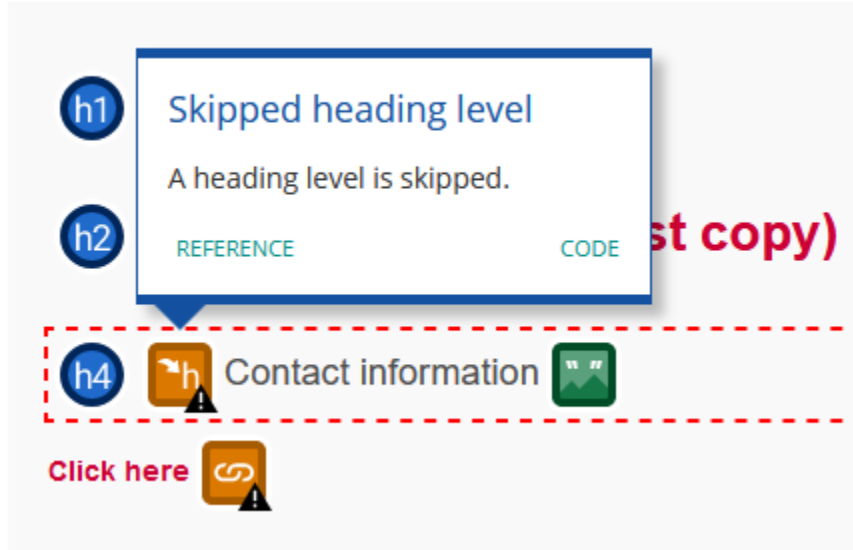
The screenshot shows the Rutgers School of Arts and Sciences website. The top navigation bar includes links for HOME, INTRO TO JOOMLA!, ACCESSIBILITY (highlighted with a green box and a '1'), ADVANCED CONTENT EDITING, EVENTS, and MODULES. Below the navigation bar, the page title is "Accessibility". A dropdown menu is set to "100". A table lists articles with columns for "Title" and "Edit Article". The first row, "Eddie K Article 1", is highlighted with a green box and has a green "2" next to the title and a green "3" next to the "Edit" link.

Title	Edit Article
Eddie K Article 1 2	3 Edit
Eddie K Article 1 (test copy)	Edit
Eddie K Article 2	Edit

Now we can work through the errors and alerts that the WAVE Testing Tool found on our web pages.

SKIPPED HEADING LEVELS

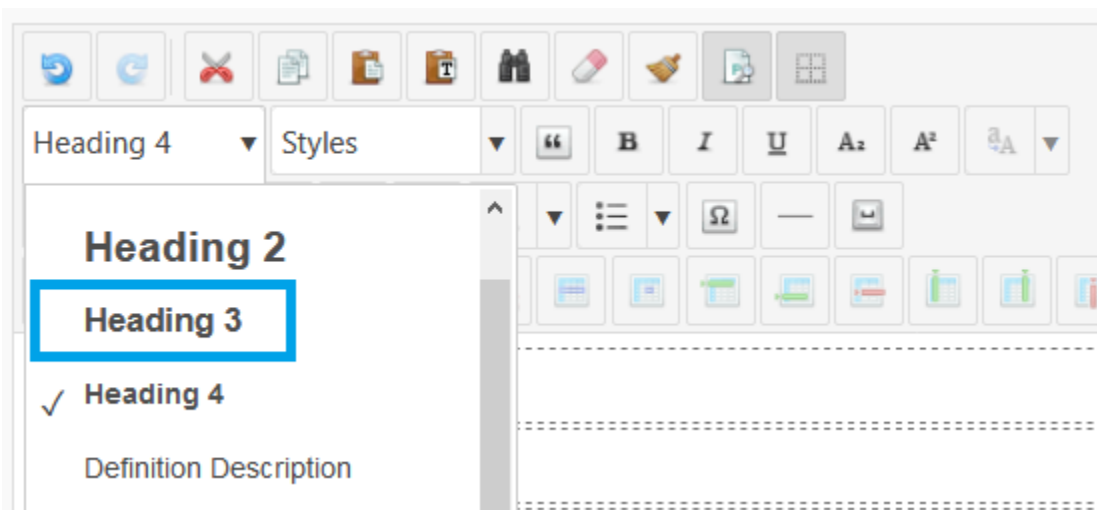
The WAVE tool displayed an orange “h” icon to the left of “Contact Information.” Clicking on the icon shows “Skipped heading level:”



Skipping heading levels (for example, jumping from Heading 2 to Heading 4) causes problems for screen reader users. Vision-impaired users can navigate web pages by having their screen reader software read the headings to them, and then jump to the desired heading. Missing heading levels disrupt their ability to navigate.

To fix this problem, change the **Heading 4** to a **Heading 3**:

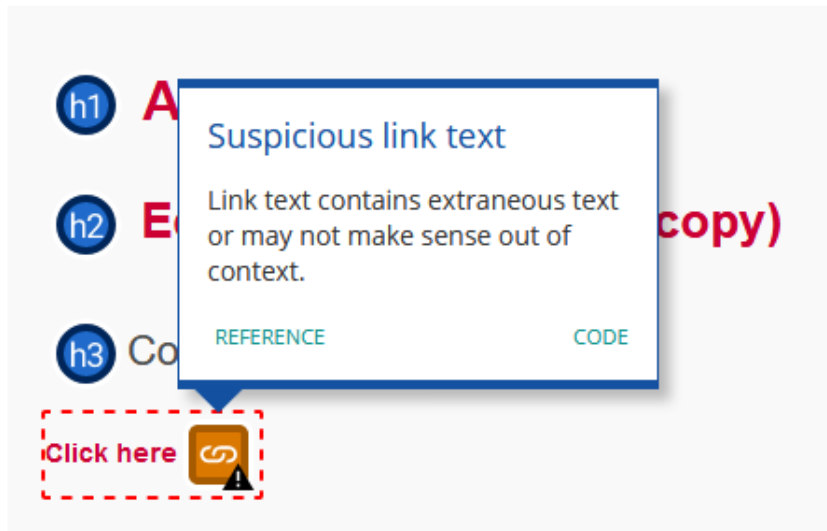
1. Click somewhere on the line containing the text “Contact Information.”
2. Select “Heading 3” from the “Paragraph” dropdown menu:



Note that **Heading 1** is reserved for page titles and is therefore not available. Use **Heading 2** for top-level headings in your article, **Heading 3** for sub-headings, and **Heading 4** for sub-sub-headings.

SUSPICIOUS LINK TEXT

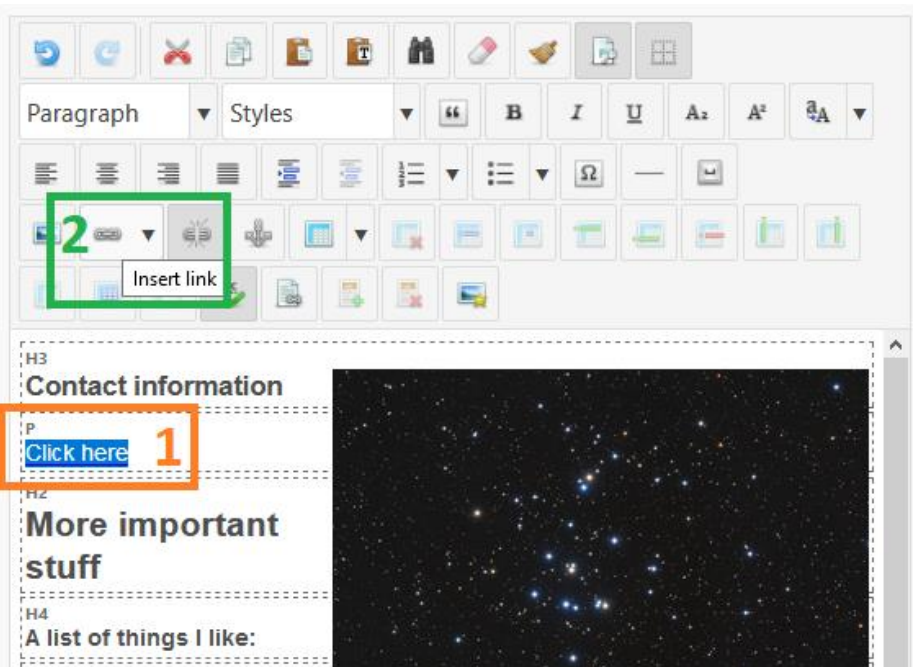
WAVE displays an orange link icon to the right of the “Click Here” linked text:



Linked text should always describe the destination of the link. Screen reader software can read a list of links on the page to users. If they hear “Click here” or “Read more,” they won’t get any information about the targets of the links.

To fix this problem:

1. Highlight the “Click here” link (see #1 below)
2. Click the “Insert Link” button on the toolbar (see #2 below)



3. Change "Click Here" to "Contact SAS" (see #3 below)
4. Click **Update** (see #4 below)

Link ✕

Link Advanced Popups

URL ✉ 📄

Text **3**

Search... 🔍 Search ⚙️

- ▶ 📁 Contacts
- ▶ 📁 Content
- ▶ 📁 Menu
- ▶ 📁 Tags
- ▶ 📁 Weblinks

Article Anchors ⬆️

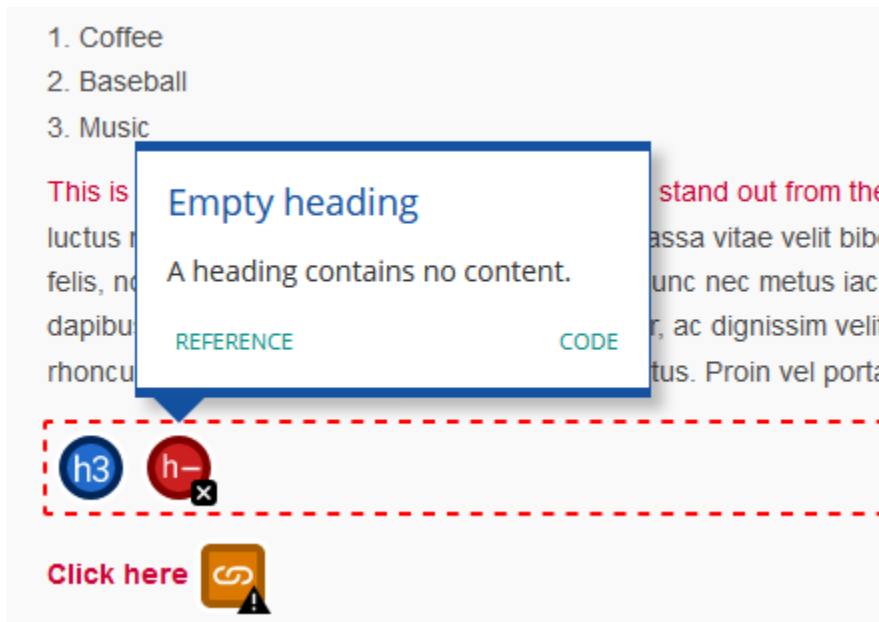
Target ⬆️

Title

✕ Cancel ❓ Help **4** ✓ Update

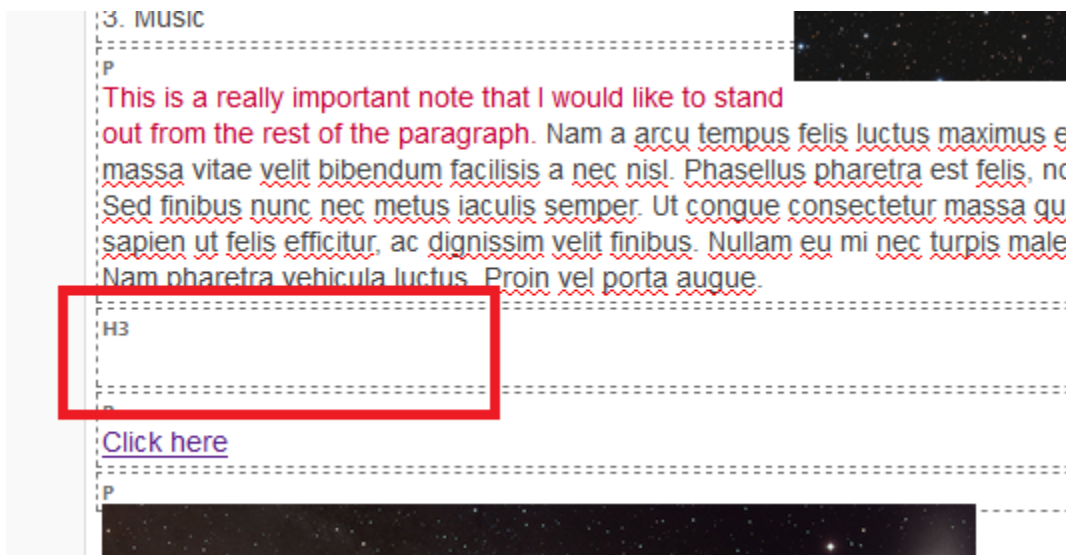
EMPTY HEADING

On the test page, WAVE displayed a blue “h3” icon with a red “h-” icon to the right of it. This indicates an empty heading:



Empty headings are bad for accessibility for the same reason as skipped heading levels: they prevent screen reader users from successfully navigating the web page.

To fix this problem, click on the blank line marked “H3” and add some text (if there should be a heading there), or press [Backspace] until the blank line and “H3” marker disappear:



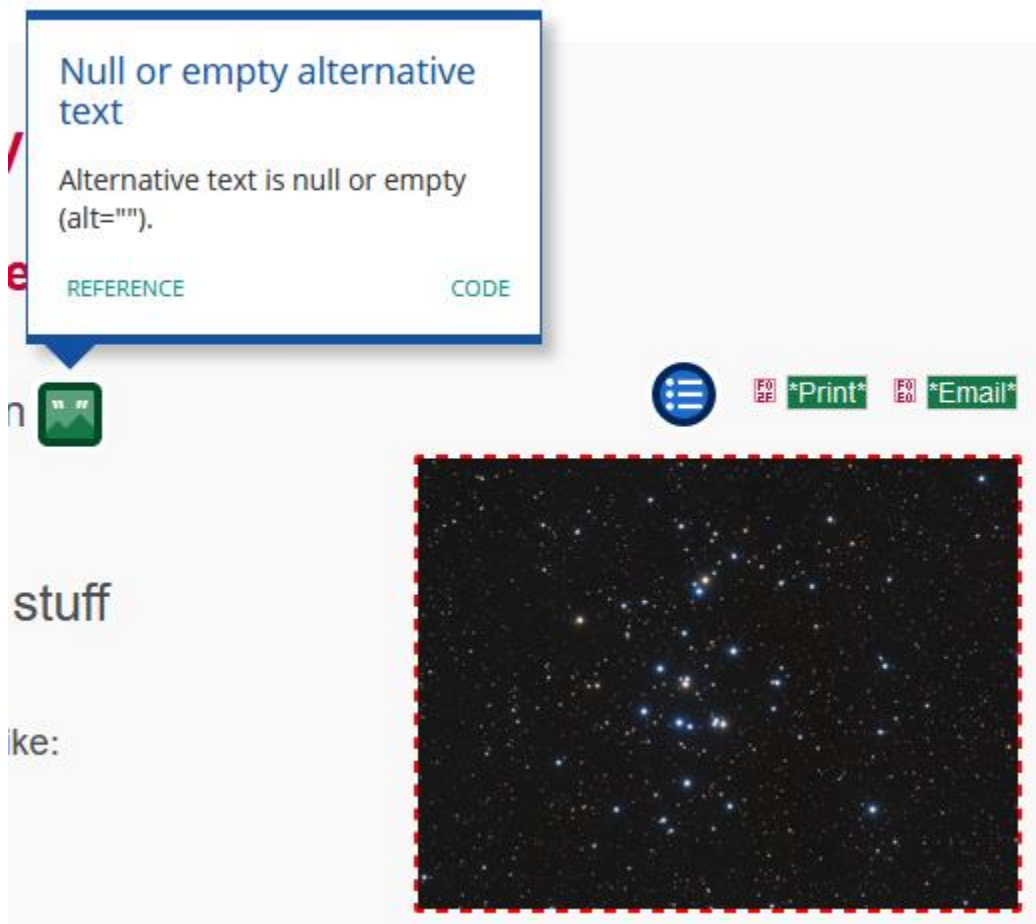
THINGS NOT RECOGNIZED AS ERRORS THAT WE STILL NEED TO CHECK

ALTERNATIVE TEXT

Tools like WAVE can only determine if the alternative text (“alt txt”) attribute for an image is empty or not. They can’t interpret the alt txt to determine if it’s accurate. It’s up to us to check the alt txt value and make sure it’s correct.

Null or Empty Alternative Text

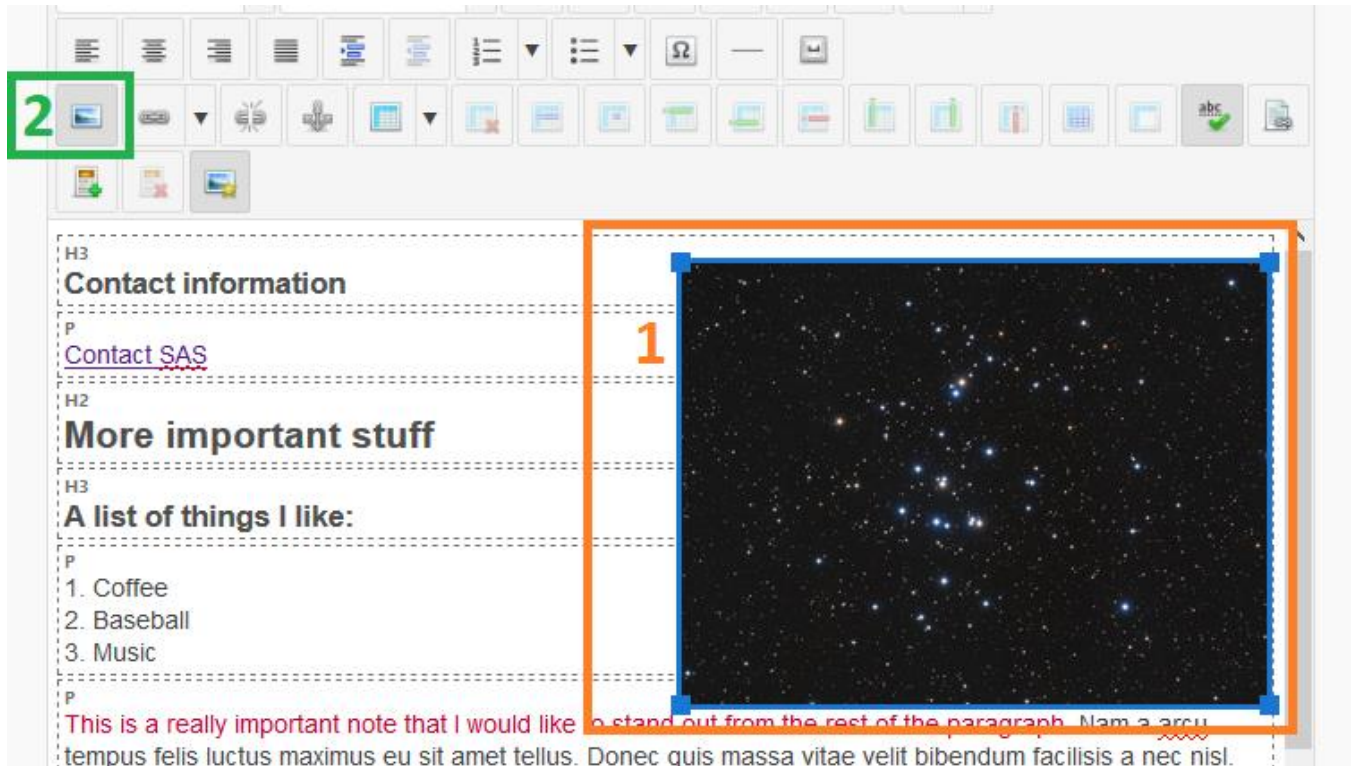
WAVE may display a green icon with two quotation marks (“”). This indicates “Null or empty alternative text:”



WAVE doesn’t flag it as an error, because empty alternative text is allowed for decorative images that don’t contain important content. If the image contains information that a visitor would be interested in, then you should include a short description of the image in the alt txt. Screen reader users will hear the alt txt read to them when they encounter the image.

Setting alternate text for your images

1. Select the image (see #1 below)
2. Click the “Insert Image” button (see #2 below)



3. Enter a short description of the image in the “Alternate Text” field:

Image Manager

Image Rollover Advanced

URL

Alternate Text

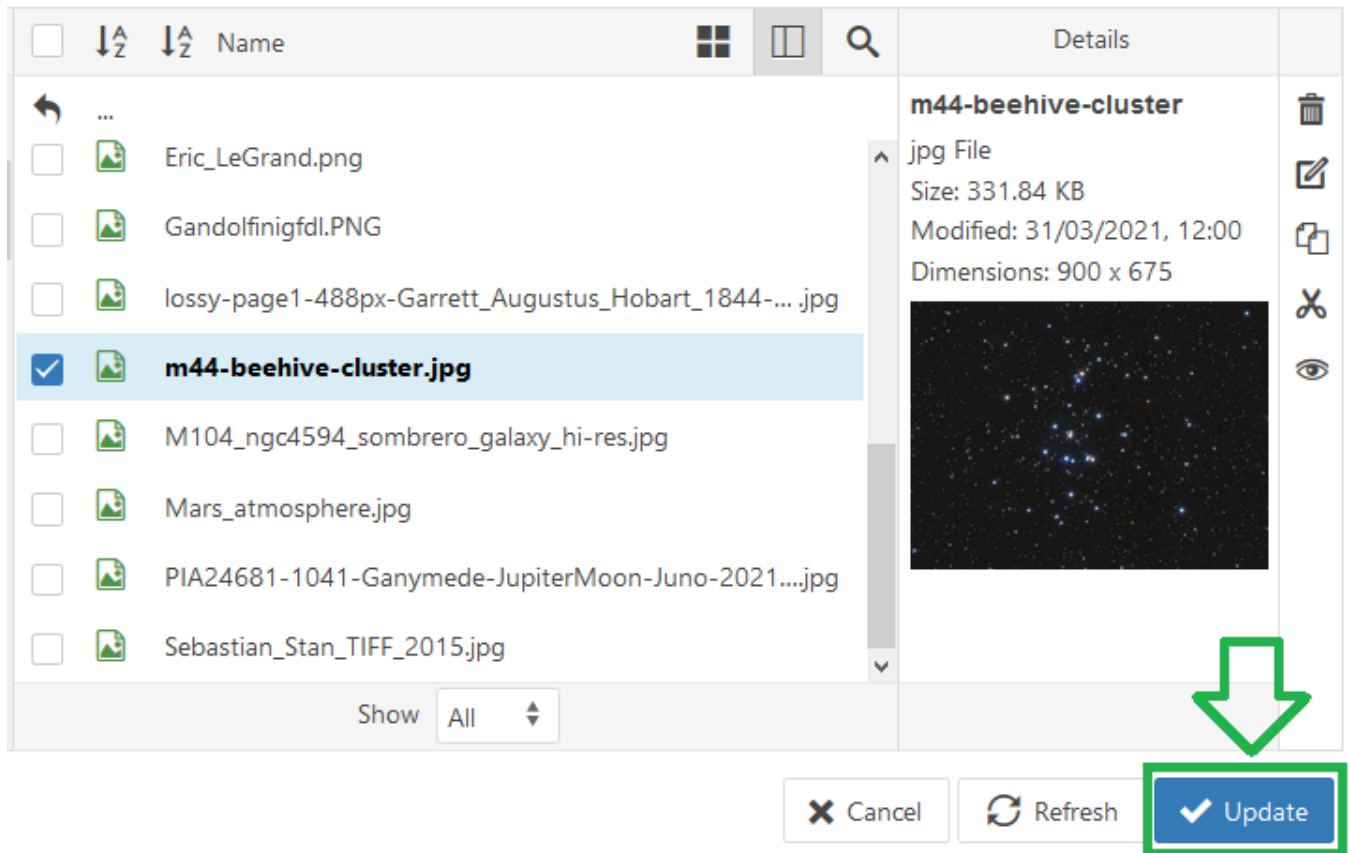
Dimensions × Proportional

Alignment Clear

Margin Top Right Bottom Left Equalize

Border Width Style Colour

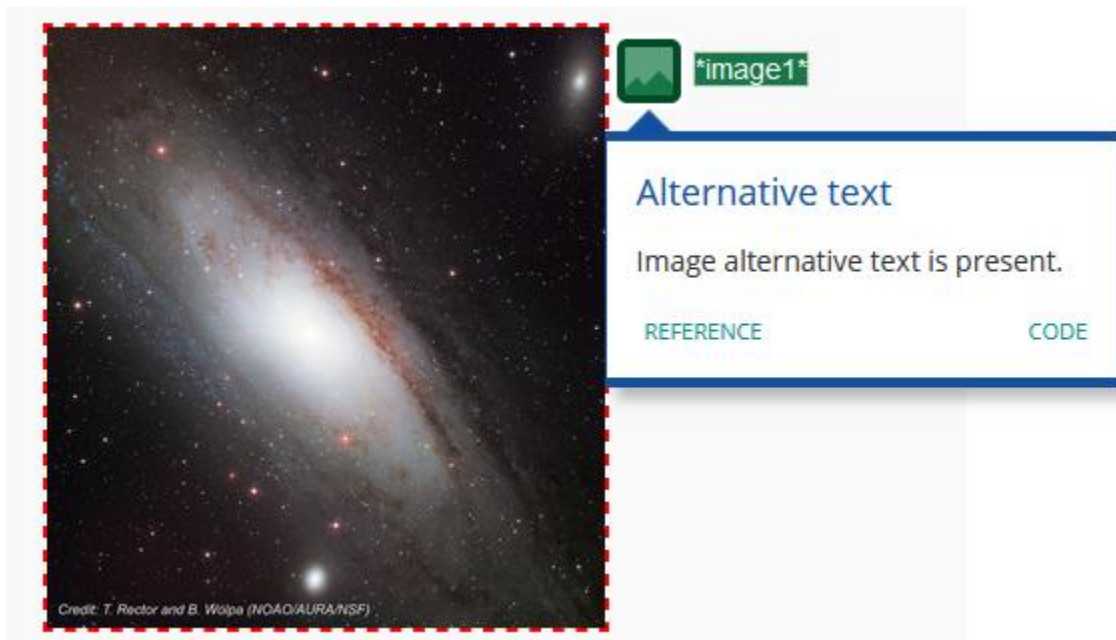
4. Click **Update** to the lower right:



5. Click **Save** to the lower left to save your changes.

Incorrect Alternative Text

If alternate text does exist for an image, WAVE will display a green image icon with the alternate text:



However, just because alternative text is present does not mean that it is correct. In the above example, "image1" does not properly describe the image.

Also, note that the above image has some embedded text. If this text is important, it should also be included in the alternate text, or shown somewhere else on the page (for example, in a caption for the image).

We can resolve this issue the same way we did for missing alt txt (see "Setting alternate text for your images" above for screenshots).

1. Select the image
2. Click the "Insert Image" button
3. Enter a short description of the image in the "Alternate Text" field
4. Click **Update** to the lower right
5. Click **Save** to the lower left to save your changes

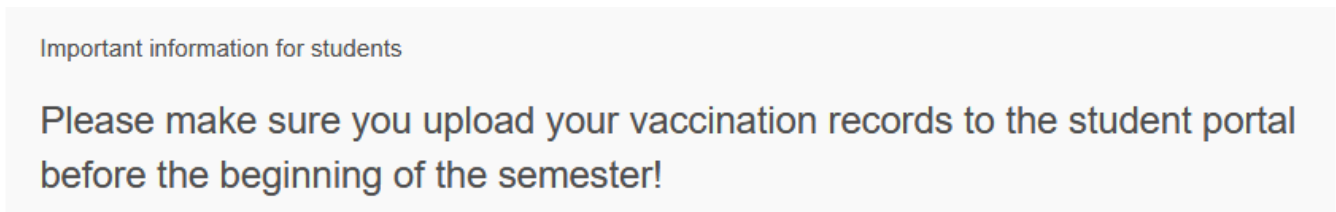
HEADINGS

Only use Heading Styles to designate actual headings for information in your article. As discussed earlier, vision-impaired users use headings to navigate the web page.

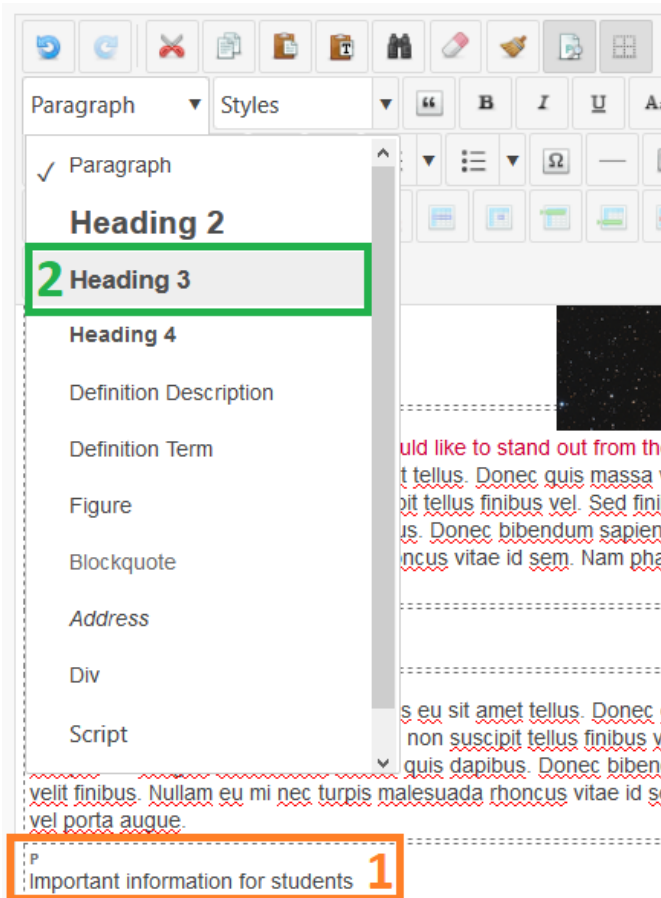
Headings Not Marked as Headings

If text that *should* be a heading does not have a heading style, a screen reader user can't easily navigate to it.

In this example, the text "Important information for students" describes the text below it, but does not have a heading style. A vision impaired user won't hear this text when their screen reader announces the list of page headings.



To fix the problem, click on the text and select the appropriate heading level from the "Paragraph" dropdown menu (make sure you don't skip a heading level):



Non-Headings Marked as Headings

Don't use a heading style to make important text stand out if that text would not be considered a heading. In the below example, the text "Please make sure you upload your vaccination records to the student portal before the beginning of the semester!" is not a heading; it doesn't describe the content that comes after it.

H3

Please make sure you upload your vaccination records to the student portal before the beginning of the semester!

H3

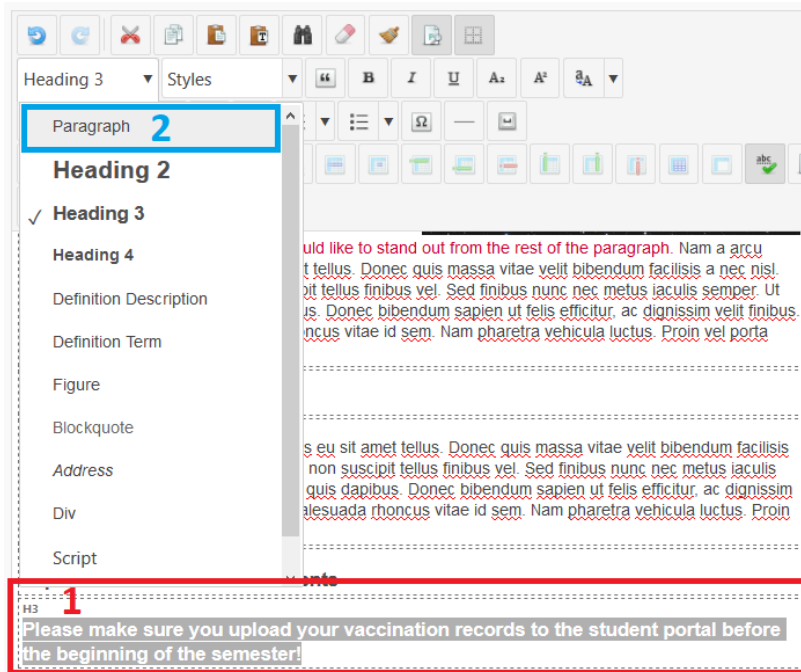
Andromeda Galaxy (M31)

P

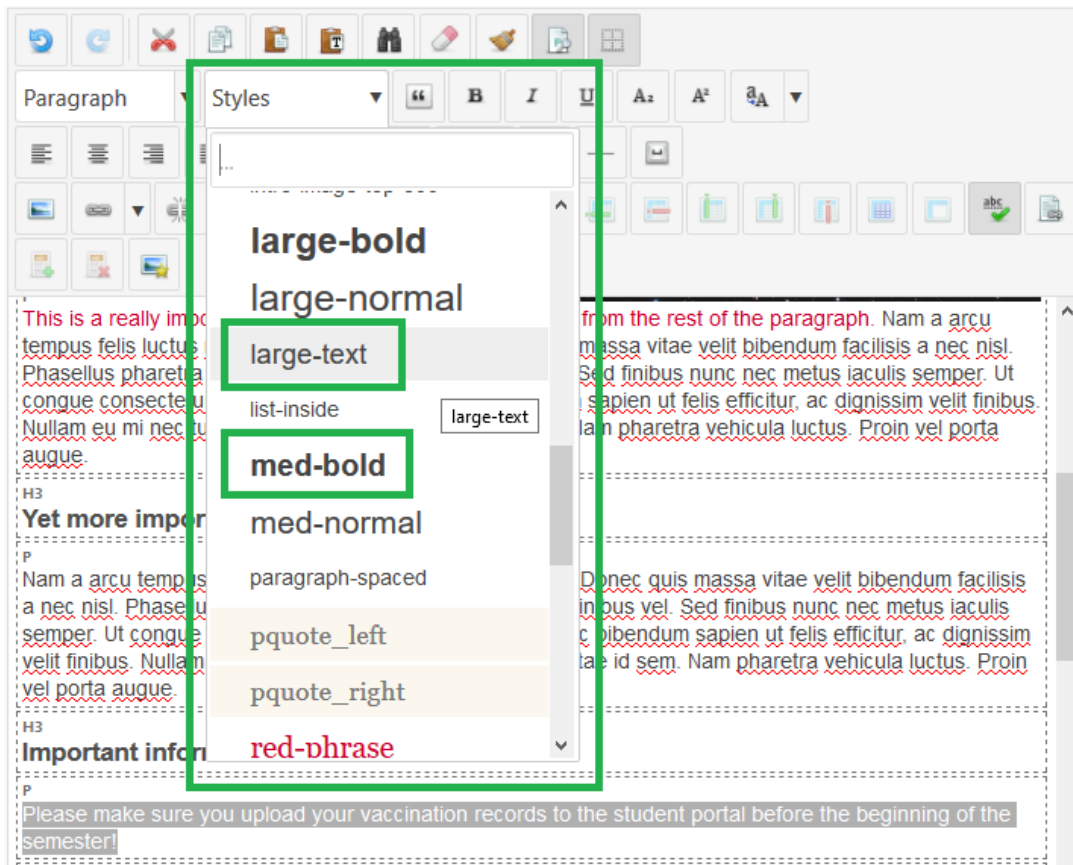


To fix the problem:

1. Highlight the text that should not be marked as a heading (*see #1 below*)
2. Select “Paragraph” from the first dropdown menu on the toolbar to change the text from a heading back to a paragraph (*see #2 below*)



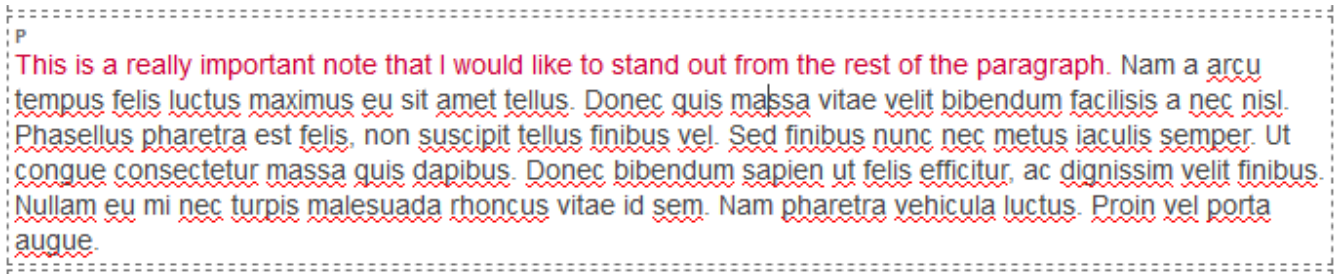
3. If you want the important text to stand out, select a large or bold style (for example, “large-text” or “medium-bold”) from the “Styles” dropdown menu instead of a heading:



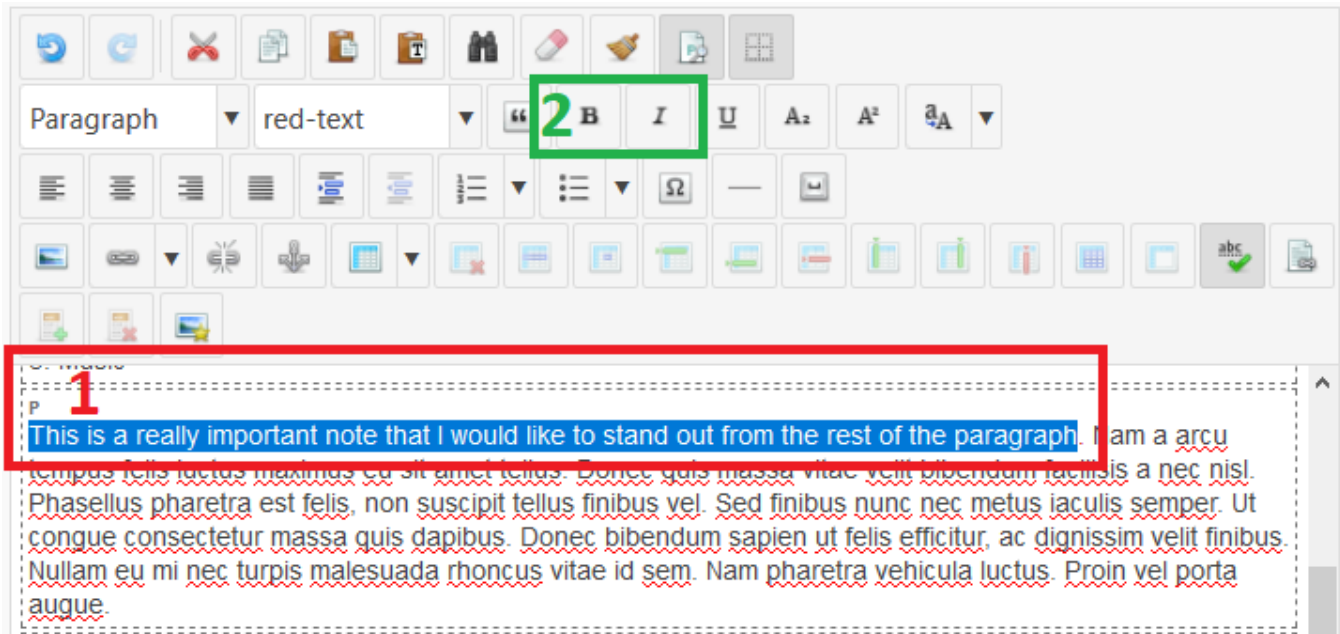
IMPORTANT TEXT ONLY INDICATED BY COLOR

Color should not be the only means of highlighting important text; also use bold or italics. Colorblind users may not be able to distinguish the text in color from the surrounding text.

In the next example, the first sentence in the paragraph is important. It has been given the style “red-text,” but a colorblind user might not see this color. Also, WAVE doesn’t recognize this as an error because it can’t actually read the text to determine if it’s important.



To fix the problem, select the important text (see #1 below), then click either the “Bold” or “Italics” button (see #2 below):



Click **Save** to the lower left to save your changes.

SCAN THE PAGE AGAIN AFTER ALL ISSUES HAVE BEEN ADDRESSED

After you have resolved as many accessibility issues as possible, go back to the WAVE Web Accessibility Evaluation Tool website at: <https://wave.webaim.org/> and re-submit your web page for testing:



You should see that WAVE is reporting less errors and warnings than before:

Category	Count
Errors	0
Contrast Errors	0
Alerts	3
Features	12
Structural Elements	36
ARIA	4

View details >

Congratulations! No errors were detected! Manual testing is still necessary to ensure compliance and optimal accessibility.

Accessibility

Eddie K Article 1 (test copy)

Contact

information

Beehive Cluster

Contact SAS

More important stuff

A list of things I like:

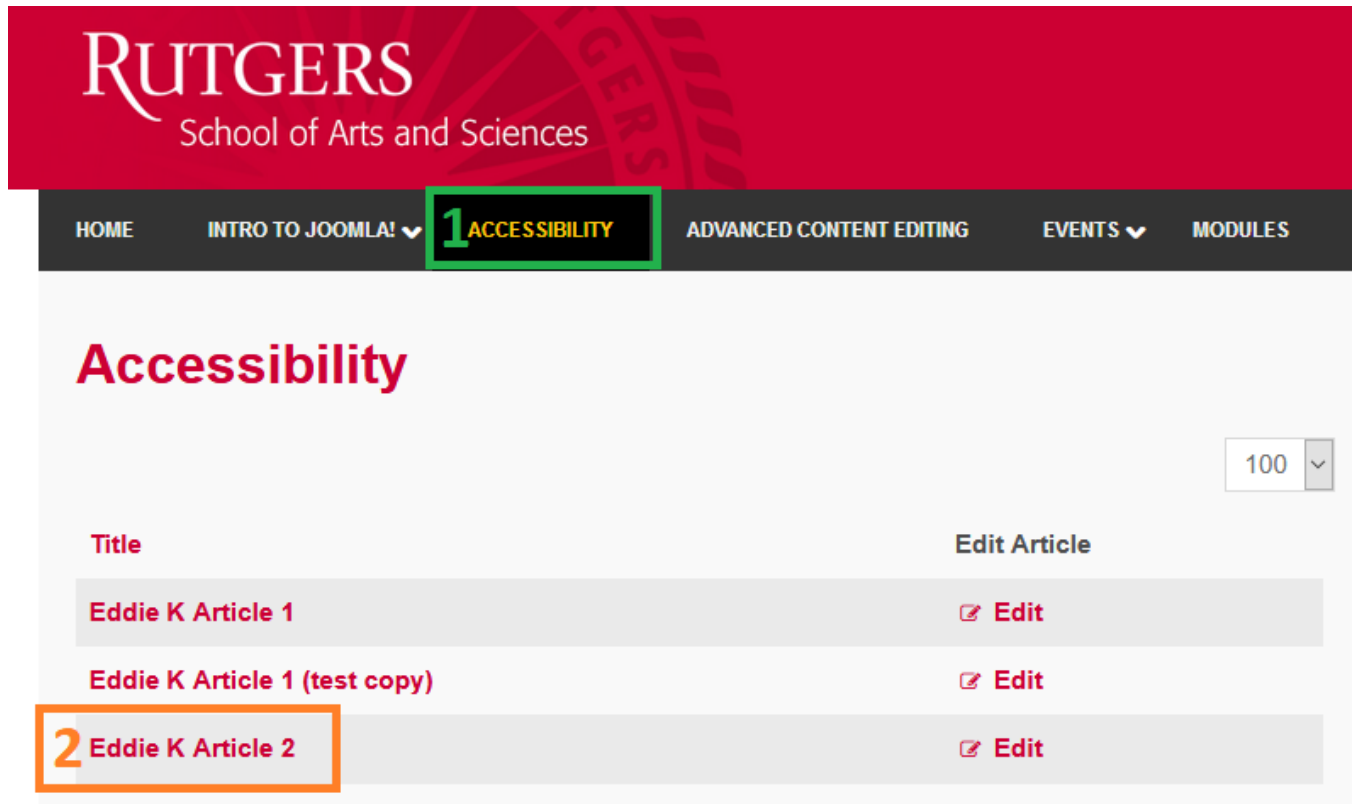
1. Coffee
2. Baseball

PRACTICE: RESOLVING ACCESSIBILITY ISSUES

Now, we will practice what we learned by trying to fix accessibility errors on another article.

FIND ARTICLE 2

1. Click on the **ACCESSIBILITY** link on the main menu (*see #1 below*)
2. Find the article starting with your name and editing in "Article 2" and click on it (*see #2 below*)

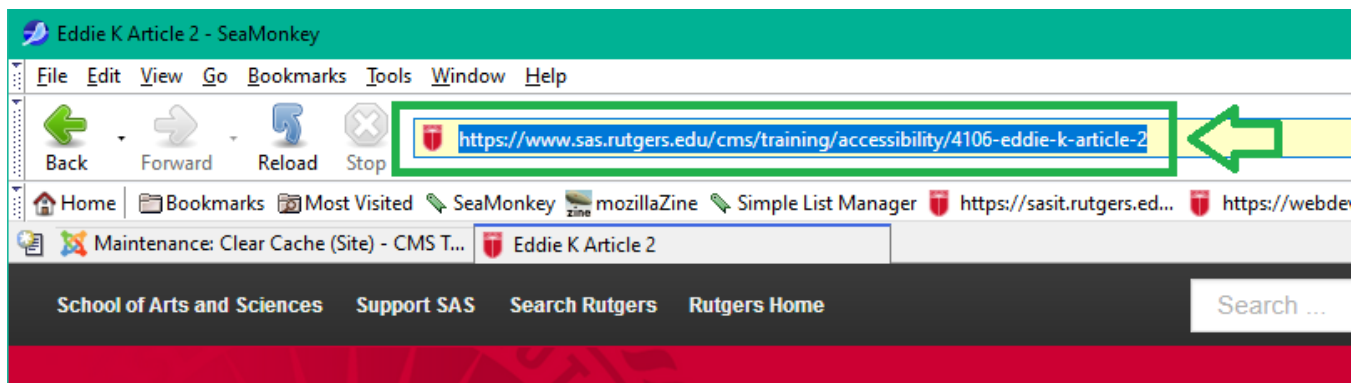


The screenshot shows the Rutgers School of Arts and Sciences website. The top navigation bar includes links for HOME, INTRO TO JOOMLA!, **1 ACCESSIBILITY** (highlighted with a green box), ADVANCED CONTENT EDITING, EVENTS, and MODULES. Below the navigation bar, the page title is "Accessibility" with a dropdown menu set to "100". A table lists articles with columns for "Title" and "Edit Article". The table contains three rows:

Title	Edit Article
Eddie K Article 1	Edit
Eddie K Article 1 (test copy)	Edit
2 Eddie K Article 2 (highlighted with an orange box)	Edit

TEST ARTICLE 2 USING WAVE

1. Copy the URL of your article by highlighting it and pressing **[Ctrl]+C**:



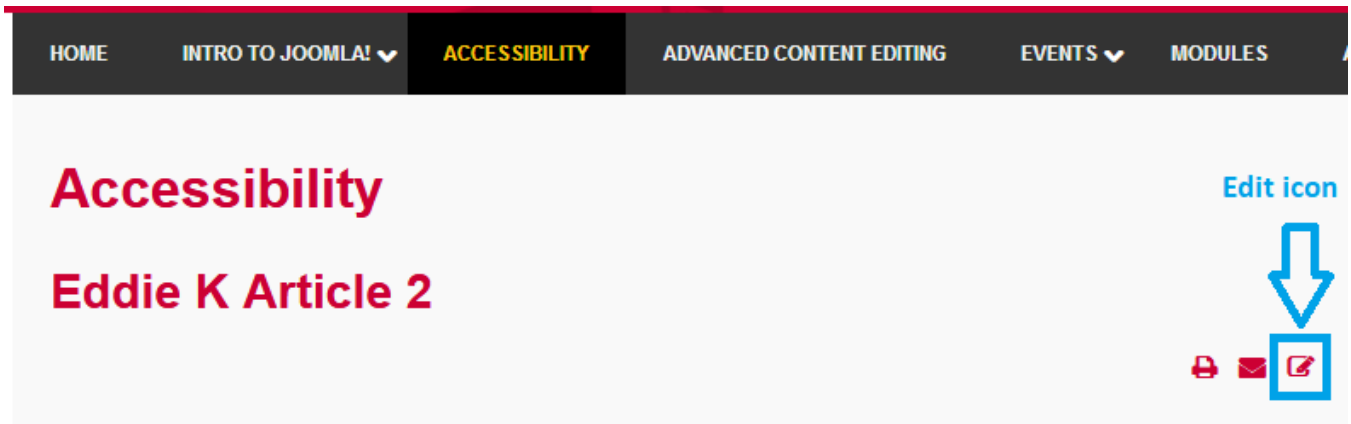
The screenshot shows a web browser window titled "Eddie K Article 2 - SeaMonkey". The address bar contains the URL <https://www.sas.rutgers.edu/cms/training/accessibility/4106-eddie-k-article-2>, which is highlighted with a green box. A green arrow points to the right from the end of the URL. The browser's toolbar includes Back, Forward, Reload, and Stop buttons. The browser's status bar shows the page title "Eddie K Article 2" and a search bar.

2. Go to the WAVE Web Accessibility Evaluation Tool website at: <https://wave.webaim.org/> and test your article.
3. Make note of the errors and warnings that WAVE reports for your article. Don't worry about errors or warnings that appear outside the article, such as these warnings about links in the banner:



EDIT ARTICLE 2

1. Come back to the Training website and click the **Edit** icon for your article (*see #2 below*)



2. Fix the problems that caused WAVE to report any errors and warnings for your article.

RE-TEST YOUR PAGE

1. Go back to the WAVE Web Accessibility Evaluation Tool website at: <https://wave.webaim.org/> and test your article again.
2. If any errors or alerts still occur within your article, edit your article to remove the causes of the errors or alerts.
3. When done editing your article, click the **Logout** link on the footer menu

ADDITIONAL INFORMATION

COURSE ACCESSIBILITY GUIDELINES

If your unit's website contains any course-related content, please review Rutgers' Course Accessibility Guidelines:

<https://it.rutgers.edu/it-accessibility-initiative/knowledgebase/course-accessibility-guidelines/>

VIDEOS

ACCESSIBILITY FOR VIDEOS

To comply with accessibility standards, make sure all videos are closed-captioned before you add them to your website.

RUTGERS SCHOOL OF ARTS AND SCIENCES YOUTUBE CHANNEL

We recommend that you have your videos uploaded to the Rutgers School of Arts and Sciences YouTube channel, managed by the Office of Communications. For more information, please visit:

<https://sas.rutgers.edu/resources/leadership-and-directory/office-of-communications/video>

KALTURA

You can also upload videos to Kaltura, which is part of Canvas. Any videos uploaded to Kaltura will give you the option to add closed captioning automatically. Rutgers faculty or staff can request a Kaltura account. To get started with Kaltura, go to:

<https://canvas.rutgers.edu/external-apps/kaltura/>

ADDITIONAL TRAINING / DOCUMENTATION

Visit our website: <https://sasit.rutgers.edu/how-to-guides/web-development-documentation>

FUTURE WORKSHOPS

Please visit: <https://sas-it.rutgers.edu/itservices/web-development-and-support/workshops-and-training>