

To: Robert Van Rennes, Big Ten Academic Alliance
From: Grey L. Pierce, MSU Usability/Accessibility Research and Consulting
Subject: Wiley Online Library High-Level Accessibility Evaluation for the Library Accessibility Alliance
Date: January 12, 2021

MSU Usability/Accessibility Research and Consulting (MSU UARC) conducted a high-level accessibility evaluation of the Wiley Online Library platform to evaluate its conformance with WCAG 2.1 AA Criteria. This evaluation did not include all functionality or content of the site or all WCAG 2.1 AA Success Criteria.

During this evaluation, a number of issues were found that will make the site impossible to use for some individuals with disabilities and will make the site difficult to use for many others.

Critically, some content cannot be used when assistive technologies are enabled. Users that rely on assistive technologies such as screen readers, including individuals with visual and reading impairments, must be able to reach and use all content when those technologies are enabled.

Keyboard users, including screen reader users and users with dexterity impairments, will find it difficult or impossible to access or use some content. Some content cannot be reached or operated via keyboard, making it impossible to use for those that rely on keyboard access. Most interactive elements lack a sufficiently visible focus indicator, making it difficult for many keyboard-only users to effectively use them, as they cannot determine when they have reached the correct element. Focus order is also incorrect in some places, increasing the difficulty of using the site with a keyboard.

Individuals who rely on screen readers, including many users with visual, reading, and language impairments, will have problems using the site. Significant content is not read out by screen readers, making it impossible for some users to access and use it. Some other content is not read out correctly, and structural information (including headings and lists) is not appropriately conveyed to users, making it difficult or impossible to understand content and organization in places. Some form inputs are not appropriately labeled, making those inputs difficult to use for those that rely on screen readers. Custom elements do not correctly announce themselves to screen readers, making them difficult to understand and use. Some images have inappropriate alternative text, significantly impacting users with visual impairments.

The PDF has not been tagged for accessibility and no structural information is provided to assistive technologies, making it extremely difficult to use and navigate for users with disabilities. Additionally, no title or language is provided to assistive technologies and images lack alternative text.

Other issues were found that will make it difficult for users with a variety of disabilities to effectively use the system, including insufficient color contrast, use of color alone to distinguish content, images of text being used instead of styled text, content unexpectedly changing when keyboard focus shifts, and inappropriate page titles.

To improve access for users with disabilities, MSU UARC recommends a full WCAG 2.1 AA evaluation and that the problems discovered be remediated.

Note: Results for "water sedimentation " were used as an example of a Search Results page, "Introducing Large Rivers" was used as an example of a Book page and PDF, and "Controls on Holocene deep-water sedimentation in the northern Gioia Basin, Tyrrhenian Sea" was used as an example of an Article page.

For reference, screenshots of the Home page (wide, medium, and narrow viewport widths) at the time this evaluation was completed have been included at the end of this memo.

High-Level Findings

Conformance

- On the Search Results page, cannot expand subsections under "Subjects" in Filters section (e.g., "ACCOUNTING") via keyboard when screen reader is in use. [[WCAG 2.1 CR 4](#), [WCAG 2.1 SC 2.1.1](#)]

Document Structure

- Headings are not appropriately structured. [[WCAG 2.1 SC 1.3.1](#)]
 - On the Home page, names of journals under "New to Wiley Online Library" should not be tagged as headings
 - On the Search Results page, "Abstract" links should not be tagged as headings ("ABSTRACT" text that appears when they are expanded is already tagged as a heading)
 - In the Export Citations lightbox on the Search Results page, "Export Citations" should be tagged as an h1, not an h2
 - On the Article page, figure headings (e.g., "Figure 3") should be tagged as programmatic headings
 - On the Advanced Search page, "Advanced search" should be tagged as an h1, not an h5
 - On the Advanced Search page, "Search Tips" should be tagged as an h2, not an h5
 - On the Advanced Search page, "Wildcards" and "Author Search" should be tagged as headings (h3s)
- On the Search Results page, the list in the Export Citations lightbox should be tagged as a programmatic list. [[WCAG 2.1 SC 1.3.1](#)]
- On the Book page, the chapter list should be coded into a programmatic list. [[WCAG 2.1 SC 1.3.1](#)]
- PDF is untagged, and provides no structural information or reading order information to assistive technologies. [[WCAG 2.1 SC 1.3.1](#), [WCAG 2.1 SC 1.3.2](#)]
- On the Search Results page, the contents of the "Refine Search" section (when expanded/visible) are not read out by screen readers. [[WCAG 2.1 SC 1.3.1](#), [WCAG 2.1 SC 4.1.2](#)]
- On the Book page, the contents of the "About this book" section are not read out by screen readers. [[WCAG 2.1 SC 1.3.1](#), [WCAG 2.1 SC 4.1.2](#)]
- On the Search Results page, result headings are incorrectly read out after some content they organize (e.g., "RESEARCH ARTICLE", "Full Access"). [[WCAG 2.1 SC 1.3.2](#)]

- On the Search Results page, checkboxes are not read out before all content they organize (e.g., "Full Access"). [[WCAG 2.1 SC 1.3.2](#)]
- On the Search Results page, content on the page behind the Export Citations lightbox is incorrectly read out when it is open. [[WCAG 2.1 SC 1.3.2](#)]
- On the Book page, chapter name headings are incorrectly read out after some content they organize (e.g., "CHAPTER 1", "Full Access"). [[WCAG 2.1 SC 1.3.2](#)]
- The language of the PDF is not defined. [[WCAG 2.1 SC 3.1.1](#)]

Keyboard Support

- Some interactive content cannot be reached or operated via keyboard. [[WCAG 2.1 SC 2.1.1](#)]
 - On the Home page, cannot reach tabs ("Refine Search", "Search History", "Saved Searches") in the "Refine Search" section
 - On the Home page, cannot activate "x" and "+" buttons in the "Refine Search" section
 - On the Book page, cannot open "This Book" dropdown in the expanded search input section
 - On the Book page, cannot reach "HOME" or "AUTHOR BIOGRAPHY"
 - On the Article page, cannot reach tabs ("Figures", "References", etc.)
 - On the Advanced Search page, cannot activate "x" and "+" buttons
- On the Search Results page, cannot expand or collapse subsections in "Filter" section (e.g., "Publication Type") or "Abstract" expanders in search results via keyboard unless screen reader is in use. [[WCAG 2.1 SC 2.1.1](#)]
- On the Search Results page, cannot expand subsections under "Subjects" in Filters section (e.g., "ACCOUNTING") via keyboard when screen reader is in use. [[WCAG 2.1 SC 2.1.1](#), [WCAG 2.1 CR 4](#)]
- On the Search Results page, focus incorrectly goes to the page behind the Export Citations lightbox when it is open. [[WCAG 2.1 SC 2.4.3](#)]
- On the Article page, if focus is moved backwards, it reaches the page behind the Figure Viewer when it is open. [[WCAG 2.1 SC 2.4.3](#)]
- Focus is not sufficiently visible for most interactive content. [[WCAG 2.1 SC 2.4.7](#)]
 - Links in page header and footer
 - Search button
 - On the Home page, links in the Resources section
 - On the Home page, "Advanced Search", "1,600+ Journals", "250+ Reference Works", etc.
 - On the Home page, "Subjects" expanders (e.g., "Art & Applied")
 - On the Home page, "New to Wiley Online Library" section contents
 - On all pages except Home, "Advanced Search" and "Citation Search" in expanded search input section
 - On the Search Results page, "SAVE SEARCH", "RSS", non-selected tabs (e.g., "Publications (1)"), "Sorted by:" dropdown contents, links in search results list, "Filters" section contents, "Refine Search" button, "Sorted by:" dropdown, "Export Citation(s)", page numbers, selected tab (e.g., "Articles & Chapters (245,974)"), and "x" button to remove Applied Filters (e.g., "Books")
 - On the Search Results page, checkboxes and "Next" button in the Export Citations lightbox

- On the Search Results page, dropdowns and "x" and "+" buttons in the "Refine Search" section
- On the Book page, "This Book" in expanded search input section
- On the Book page, share button and text links throughout page
- On the Article page, ad image, text links throughout page, and "References" and "Citing Literature" expanders
- On the Article page, controls in the Figure Viewer
- On the Advanced Search page, dropdowns and "x" and "+" buttons
- On the Article page, content at the top of the right column (e.g., "Volume 55, Issue 6", ad image, etc.) are off-screen while focused (if keyboard focus is advanced from the prior column). [[WCAG 2.1 SC 2.4.7](#)]
- On all pages except Home, the search input unexpectedly expands and displays additional buttons when it receives focus, without the user taking an explicit action or being warned. [[WCAG 2.1 SC 3.2.1](#)]

Navigation

- The Search Results page title does not include the site name. [[WCAG 2.1 SC 2.4.2](#)]
- PDF is not titled. [[WCAG 2.1 SC 2.4.2](#)]

Forms and Data Submission

- On the Search Results page, "Apply selected dates" is not an appropriate programmatic label for the "Go" button. [[WCAG 2.1 SC 2.5.3](#)]

Images

- On the Article page, sufficiently descriptive alternative text is not provided for figures in the article (e.g., Figure 1: "The dashed frame indicates the area shown in Fig. 2." gives no indication of the area depicted). [[WCAG 2.1 SC 1.1.1](#)]
- On the Article page, appropriate alternative text is not provided for the ad image (e.g., "Wiley Digital Archives, Historical Geography") or Altmetric image. [[WCAG 2.1 SC 1.1.1](#)]
- On the Article page, appropriate alternative text is not provided for "SEDIMENTOLOGY" image ("The Journal of..." is missing). [[WCAG 2.1 SC 1.1.1](#)]
- Images in the PDF lack alternative text. [[WCAG 2.1 SC 1.1.1](#)]
- On the Article page, ads are images of text, instead of styled text. [[WCAG 2.1 SC 1.4.5](#)]

Color and Visual Characteristics

- Color is the only means to differentiate most focused elements (e.g., light blue vs. white throughout site, light blue vs. blue in footer, light blue vs. light grey in Filters section on Search Results page, blue vs. black and red in the top section on the Home page). [[WCAG 2.1 SC 1.4.1](#)]
- On the Search Results page, color is the only means to differentiate search term highlighting (light blue vs. white). [[WCAG 2.1 SC 1.4.1](#)]
- Green text on white background (e.g., contents of "Resources" section on Home page), white text on light grey (e.g., "Browse All Titles" when focused on Home page), light grey text on white (e.g., "First published:" and "Advertisement" on Article page), black text on dark grey (reference links in Caption in Figure Viewer on

Article page), blue text on dark grey (links in Caption in Figure Viewer on Article page) have insufficient contrast. [[WCAG 2.1 SC 1.4.3](#)]

Custom Elements and Dynamic Content

- On the Home page, all expanded sections under "Subjects" are incorrectly announced as "Agriculture, Aquaculture & Food Science", instead of the correct names. [[WCAG 2.1 SC 4.1.2](#)]
- On the Search Results page, roles and values (i.e., that they are tabs and whether they are selected) are not provided for tabs ("Articles & Chapters", "Publications", "Collections"). [[WCAG 2.1 SC 4.1.2](#)]
- On the Search Results page, values (i.e., whether they are selected) are not provided for tabs in Refine Search section ("Refine Search", "Search History", "Saved Searches). [[WCAG 2.1 SC 4.1.2](#)]
- On the Book page, name, role, and value (i.e., "share", that it expands, and whether it is expanded) are not provided for share button. [[WCAG 2.1 SC 4.1.2](#)]
- In the Figure Viewer on the Article page, no feedback is provided to screen readers when activating zoom in/out buttons, previous/next figure buttons, or Caption expander. [[WCAG 2.1 SC 4.1.2](#)]
- On the Search Results page, the contents of the "Refine Search" section (when expanded/visible) are not read out by screen readers. [[WCAG 2.1 SC 4.1.2](#), [WCAG 2.1 SC 1.3.1](#)]
- On the Book page, the contents of the "About this book" section are not read out by screen readers. [[WCAG 2.1 SC 4.1.2](#), [WCAG 2.1 SC 1.3.1](#)]

Disclaimer: This high-level evaluation was conducted for the Library Accessibility Alliance, and represents a good faith effort conducted within a limited time frame. It should not be assumed to be complete or free from error. No warranties or guarantees are implied. UARC is not responsible for direct, indirect, or incidental damages based on this work; its use or interpretation by any individual, group, or organization; or on conditions beyond our control.

Home Page Screenshots

Large Viewport

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Subjects

Agriculture, Aquaculture & Food Science	▼
Architecture & Planning	▼
Art & Applied	▼
Business, Economics, Finance & Accounting	▼
Chemistry	▼
Computer Science & Information Technology	▼
Earth, Space & Environmental Sciences	▼
Humanities	▼
Law & Criminology	▼
Life Sciences	▼
Mathematics & Statistics	▼
Medicine	▼
Nursing, Dentistry & Healthcare	▼
Physical Sciences & Engineering	▼
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Medium Viewport

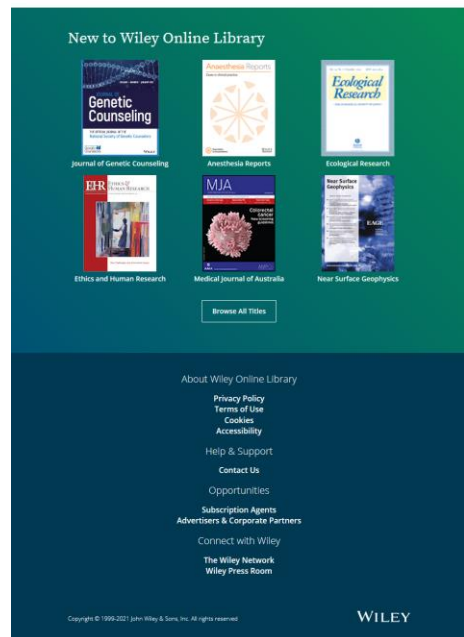


Resources

- Researchers
- Librarians
- Societies
- Authors

Subjects

- Agriculture, Aquaculture & Food Science
- Architecture & Planning
- Art & Applied
- Business, Economics, Finance & Accounting
- Chemistry
- Computer Science & Information Technology
- Earth, Space & Environmental Sciences
- Humanities
- Law & Criminology
- Life Sciences
- Mathematics & Statistics
- Medicine
- Nursing, Dentistry & Healthcare
- Physical Sciences & Engineering
- Psychology
- Social & Behavioral Sciences
- Veterinary Medicine



Narrow Viewport



Resources

- Researchers
- Librarians
- Societies
- Authors

Subjects

- Agriculture, Aquaculture & Food Science
- Architecture & Planning
- Art & Applied
- Business, Economics, Finance & Accounting
- Chemistry
- Computer Science & Information Technology
- Earth, Space & Environmental Sciences
- Humanities
- Law & Criminology
- Life Sciences
- Mathematics & Statistics
- Medicine
- Nursing, Dentistry & Healthcare
- Physical Sciences & Engineering
- Psychology
- Social & Behavioral Sciences
- Veterinary Medicine

