

To: Robert Van Rennes, Assistant Director, Library Initiatives, Big Ten Academic Alliance
From: Graham L. Pierce, MSU Usability/Accessibility Research and Consulting
Subject: Wiley Online Library High-Level Accessibility Evaluation
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MSU Usability/Accessibility Research and Consulting (UARC) conducted a preliminary accessibility evaluation of Wiley Online Library to evaluate its conformance with WCAG 2.0 AA Criteria. This evaluation did not include all functionality or content of the site or all WCAG 2.0 AA Criteria.

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

Most critically, there is no means for users to pause, stop, or hide automatically moving content, which is a violation of [Conformance Requirement 5 \(Non-Interference\)](#), and may prevent users with cognitive and other disabilities from being able to effectively use any part of a page.

Keyboard users, including screen reader users, will not be able to use a considerable portion of content on the Wiley Online Library site. Significant content on the site cannot be accessed with the keyboard alone, preventing users with severe dexterity impairments and users who rely on screen readers (including users with severe visual impairments) from having access. For those elements that can be reached by keyboard, many lack a sufficiently visible focus indicator, making it difficult or impossible for many keyboard-only users to effectively use them, as they cannot determine when they have reached the correct element. Additionally, interactive elements that can be reached via keyboard are sometimes reached in an unexpected or inappropriate order.

Individuals with visual impairments that rely on screen readers will have additional problems. Many form inputs are not labeled and error messages are not appropriately communicated to assistive technologies, making them difficult or impossible to use for those that rely on screen readers. Images throughout the site have incorrect or inappropriate alternative text, further impacting users with visual impairments. Dynamic and interactive elements do not correctly announce themselves or provide feedback to screen readers.

While text in PDFs is provided to screen readers, PDFs have not been tagged for accessibility, and no structural information is provided to assistive technologies, making them extremely difficult to use and navigate for users with disabilities. Additionally, alternative text has not been provided for images in PDFs, rendering them inaccessible to users with significant visual impairments that rely on screen readers.

A number of other issues were found that will make it difficult for users with a variety of disabilities from effectively using the site, including incorrect use of headings to structure content, inappropriate reading order, insufficient link context, use of images of text instead of styled text, and insufficient color contrast.

To improve access for users with disabilities, UARC recommends a full WCAG 2.0 AA evaluation of Wiley Online Library and that the problems discovered be remediated.

Preliminary Findings

Document Structure

- Text that does not structure content is tagged as a heading (e.g., journal names on Search Results page, book title under "Book Title" heading on Pure Environmental Science page, author names on Global Warming article page), and text that does structure content is not tagged as a heading (e.g., article titles on Search Results page, "Additional Information" on Pure Environmental Science page, "Summary" tab on Pure Environmental Science page). [[WCAG 2.0 SC 1.3.1](#)]
- Article title (h1) on Global Warming article page should precede the content it organizes in the reading order (e.g., sidebar with "Abstract", "Data and Methods", etc.). [[WCAG 2.0 SC 1.3.1](#)]
- Cells in the first column in many tables on Global Warming article page (e.g., Table 1) should be tagged as table headings. [[WCAG 2.0 SC 1.3.1](#)]
- "A A" is read out unexpectedly by screen readers at various points on Global Warming article page. [[WCAG 2.0 SC 1.3.1](#)]
- PDFs are not tagged for accessibility; no document structure information (including heading tags, table structure, etc.) is available to users of assistive technologies. [[WCAG 2.0 SC 1.3.1](#)]

Keyboard Support

- Content beyond the "Share" button (Pure Environmental Science page) cannot be reached with the keyboard alone (without specific keystroke timing; content can be reached via keyboard if the user advances focus rapidly enough to avoid the Share lightbox loading); focus is reset to the top of the page when the "Share" button is reached. [[WCAG 2.0 SC 2.1.1](#)]
- The "Share" lightbox (Pure Environmental Science page) and the "Text Size" and "Share" lightboxes on Global Warming article page cannot be reached with the keyboard alone. [[WCAG 2.0 SC 2.1.1](#)]
- Focus is not sufficiently visible across the site, particularly for image links, menus, radio buttons, checkboxes, dropdowns, buttons, and some text links (focus is least visible for text links on Search Results page and Global Warming article page). [[WCAG 2.0 SC 2.4.7](#)]
- Focus order is not consistently appropriate (e.g., "PDF", "Info", "References", and "Figures" buttons are only reached after focus is moved through all links in the article on Global Warming article page, "Filter List" is reached after all search results on Search Results page, basic book information and h1 should precede "Book Tools" sidebar on Pure Environmental Science page, etc.). [[WCAG 2.0 SC 2.4.3](#)]
- Focus remains on page behind "Export Citation" lightbox (Search Results page) when it is open, and only reaches the lightbox after all other page content. [[WCAG 2.0 SC 2.4.3](#)]
- The close button in the "Export Citation" lightbox (Search Results page) cannot be reached with the keyboard alone. [[WCAG 2.0 SC 2.1.1](#)]
- "Browse" lightboxes (Home page) don't close when focus is moved out of them. [[WCAG 2.0 SC 2.1.1](#)]

Navigation

- It is not clear to users that "Browse" links (Home page) will open lightboxes, rather than new pages. [[WCAG 2.0 SC 2.4.4](#)]

- It is not clear to users that "Filter List" items will refine results on Search Results page (especially unclear to screen reader users). [[WCAG 2.0 SC 2.4.4](#)]
- Link text is not consistently visually distinguished from non-link text. [[WCAG 2.0 SC 2.4.4](#)]
- "Add another row" unexpectedly reloads the page. [[WCAG 2.0 SC 2.4.4](#)]
- "Skip to Main Content" link on Advanced Search page does not work. [[WCAG 2.0 SC 2.4.1](#)]

Forms and Data Submission

- Search text input (Home page), checkboxes (Search Results page), and inputs on Advanced Search page lack programmatic labels. [[WCAG 2.0 SC 3.3.2](#)]
- Error messages throughout the site (e.g., Home page, Pure Environmental Science page, Advanced Search page) are not programmatically associated with inputs, and are not announced by screen readers. [[WCAG 2.0 SC 3.3.1](#)]

Images

- Images of text are used in place of styled text in numerous places (e.g., "Training and Tutorials", "Register for Alerts", "Open Access", and "Wiley Online Library" on Home page and "Published by" in SSQ banner on Global Warming article page). [[WCAG 2.0 SC 1.4.5](#)]
- Alternative text is not appropriate for many images throughout the site (e.g., "Self-paced tutorials available 24/7" is not included in "Training and Tutorials" alternative text on Home page; book cover on Pure Environmental Science page should have null alt attribute or the alternative text should say "book cover"; advertisement images on Global Warming article page lack appropriate alternative text; alternative text for "Social Science Quarterly" image on Global Warming article page doesn't include "Published by" text, etc.). [[WCAG 2.0 SC 1.1.1](#)]
- Alternative text is not provided for images in PDFs. [[WCAG 2.0 SC 1.1.1](#)]

Color and Visual Characteristics

- White text on yellow background (e.g., "Register for Alerts" on Home page), white text on turquoise (e.g., navigation bar and "Training and Tutorials" on Home page), turquoise text on light grey (e.g., "A" to "Z" and "0-9" links on Home page, "BOOK TOOLS" on Pure Environmental Science page, links after "Wiley Online Library" in page footer), light brown text on white (selected "Filter List" type on Search Results page), white on light blue (selected items in dropdowns), light grey text on white (e.g., "Additional Information" on Pure Environmental Science page) have insufficient color contrast. [[WCAG 2.0 SC 1.4.3](#)]

Custom Elements and Dynamic Content

- Controls are not provided to pause, stop, or hide rotator on Home page or animated advertisements on Global Warming article page. [[WCAG 2.0 SC 4.1.2](#)]
- "References", "Related Content", and "Citing Literature" (Global Warming article page) and links under "Additional Information" (Pure Environmental Science page) do not declare their roles or values (i.e., that they expand/collapse content, and whether they are expanded or collapsed). [[WCAG 2.0 SC 4.1.2](#)]
- Screen reader users are not notified when content is expanded or collapsed (e.g., "References", "Related Content", and "Citing Literature" on Global Warming article page and links under "Additional Information" on Pure Environmental Science page),

when lightboxes are opened (e.g., "Export Citations" lightbox on Search Results page), or when rows are added (Advanced Search page). [[WCAG 2.0 SC 4.1.2](#)]

- "Summary" and "Chapter" (Pure Environmental Science page) are visually styled as tabs, but do not function as tabs. [[WCAG 2.0 SC 4.1.2](#)]
- Asterisk definitions in tables (Global Warming article page) are not read out by screen readers. [[WCAG 2.0 SC 4.1.2](#)]

Disclaimer: This preliminary evaluation was conducted for the Big Ten Academic 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.