

Increasing Inclusion for Disabled Wildlife Viewers

Findings from the literature

To better support inclusion for wildlife viewers with disabilities, researchers at Virginia Tech, in collaboration with the Wildlife Viewing and Nature Tourism Working Group, conducted a literature review in spring 2024. Here are some key findings.



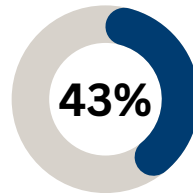
Disability: “A physical or mental impairment that substantially limits one or more major life activities” including a person’s mobility, cognition, hearing, vision, self-care, or the ability to live alone. (Americans with Disabilities Act, 1990)

1 in 4, or 61 million, **Americans is disabled.** (Centers for Disease Control, 2020)

The **social model of disability** says the disability does not live in the person, but instead in inaccessible environments. For example, it is the stairs that disable a wheelchair user -- if there was a ramp, they would not be disabled from accessing the viewing platform.



of wildlife viewers
report experiencing
accessibility challenges



of wildlife viewers who also
hunt and fish
report experiencing
accessibly challenges

(Sinkular et al., 2024)

The **Americans with Disabilities Act** (1990) is a federal civil rights law that aims to prevent discrimination against people with disabilities. The **2010 ADA Standards for Accessible Design** provides specific requirements about accessible design of new or altered public spaces.

Inclusion happens in the social environment (how we interact) and is not addressed in the ADA. Lack of inclusion can create barriers to participation in wildlife viewing. (Sinkular et al., 2024)



Disabled wildlife viewers are not under-represented in wildlife viewing, but are likely underserved.



Benefits of nature and wildlife viewing for people with disabilities includes:

Decreased
symptoms of
depression and
stress

Opportunity for
rest, relaxation
and reflection

Improved
problem-solving

Opportunity
for thrill
or risk

Empowerment:
opportunity to
overcome challenges
and feel a sense of
accomplishment

Improved
communication
and social
connections



Feelings of awe,
wonder and
playfulness

(Armstrong et al., 2022; Bell 2019; McAvoy et al., 2006; Pearson et al., 2021; Wilson & Christensen, 2012; Zachor et al., 2017)

Barriers to wildlife viewing for people with disabilities include:

Personal barriers*:

- Lack of time available
- Lack of money
- Lack of knowledge of where to go that would be accessible to them, and where to go that has good wildlife viewing opportunities
- Lack of equipment

Interpersonal barriers:

- Lack of a 'birding buddy' to go with
- Lack of others in their life who support them to go wildlife viewing
- Negative attitudes from others
- Crowds at birding locations
- Lack of staff understanding of disability at wildlife viewing locations

Lack of accessible features:

- Distance to wildlife viewing locations
- Lack of transportation
- Lack of accessible trails, benches or rest areas, accessible bathrooms, and accessible parking
- Obstacles (bollards, boulders, gates)
- Safety and maintenance concerns

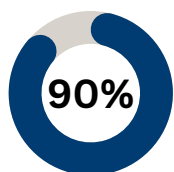
Programming barriers:

- Lack of accessibility information
- Lack of inclusive wildlife viewing programs
- Lack of wheelchair accessible wildlife tour vehicles, e.g. tram tours

*Personal barriers are related to the individual, but not always within their control.

(Anderson & Heyne, 2000; Darcy, 2006; Dippenaar & Kotze, 2005; Karns et al., 2023; Mahmoudzadeh & Kourdi Sarjaz, 2018; Schahfer & Robison, no date; Sinkular et al., 2024)

The barriers identified by disabled wildlife viewers are barriers found in the physical, social, or institutional environments. In order to be reduced or eliminated, they must be modified by wildlife viewing agencies and/or other wildlife viewers.



of hunters and anglers
also participate in
wildlife viewing
(Leonard, 2023)

**Disabled hunters and anglers
experience similar barriers as
disabled wildlife viewers.**

Factors that would make wildlife viewing more accessible for people with disabilities include:

- More wildlife viewing staff
- More information about where to go to view wildlife, and how to view wildlife
- More wildlife viewing programs, including programs that include interacting with other wildlife viewers, improve their skills, train their 'birding buddy' or mentors, upskill them for data collection projects, and virtual wildlife viewing programs
- Program leaders who are knowledgeable about disabilities and disability etiquette
- Improved physical accessibility of wildlife viewing locations
- Wildlife viewing locations that go beyond baseline/minimum accessibility standards
- Other wildlife viewers who are willing to adapt to disabled birders' access needs

(Sinkular et al., 2024)



While the percentage of disabled wildlife viewers requesting various types of support was consistently higher than nondisabled viewers, the interest in these supports from nondisabled viewers was still robust.



Improving accessibility and inclusion for disabled birders benefits nondisabled birders too. (Sinkular et al., 2024)

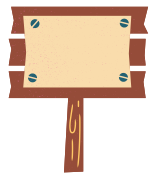


Detailed guidance exists for designing **accessible trails**, including:

- Firm, stable and slip resistant surfaces (concrete, asphalt, wood or composite boardwalks, or hard-packed crushed stone 3/8" aggregate mix)
- At least 36" wide
- Gradient no steeper than 5% or 1:20
- Cross slope no greater than 2% or 1:50
- Tread obstacles no taller than 1/4"
- Maximum 1/2" wide openings (e.g. between boards on a boardwalk)
- Benches at least every 45-60m

(Architectural Barriers Act Section 1017: Trails, U.S. Access Board, 1968; Design Guidelines for Accessible Outdoor Recreation Facilities, Parks Canada, 1994; Accessibility Design Standards for all Future Projects, Oregon Parks and Recreation Department, 2023)

Detailed guidance exists for designing **accessible interpretive signs**, including:



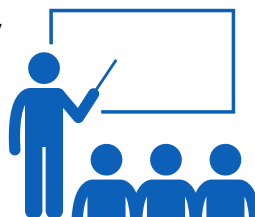
- Strong contrast between text and background colors; solid background color
- Avoid white or gloss backgrounds, as they create glare
- Use sans serif fonts. Avoid italics, underlining, all caps, scripts or highly decorative fonts. Text should be left-justified
- Clear guidance is provided on font size depending on the viewing distance
- Guidance is provided on character proportions, stroke thickness and line spacing
- Provide a tactile component and braille, audio descriptions and large print options
- Use plain language. Avoid jargon. Use short simple sentences and concise paragraphs
- Key points should be understood within 45 seconds of reading
- Position interpretive signs at a 45° angle, aligned with the axis of the sun
- Signs should be located 32" from the finished trail surface to the bottom of the sign

(Design Guidelines for Media Accessibility, Parks Canada, 1994; National Park Service guidelines, 2009 & 2017; ADA Standards for Accessible Design, 2010; Smithsonian Guidelines for Accessible Exhibition Design, no date.)

To support inclusion of disabled wildlife viewers, **staff and volunteers should be trained on best practices to include disabled visitors**, including:

Disability culture and cultural humility

Soft skills such as patience and direct communication



Up-to-date disability-related language

Strategies to use during development or during a program to modify the activity for an individual's needs

(Schleien et al., 1997; Anderson & Heyne, 2000; Armstrong et al., 2022; Sinkular et al., 2024)

Wildlife viewing programs can be more accessible and inclusive if they...

Are held near public transportation

Are held at physically accessible locations

Build in rest breaks

Include opportunities to interact with other wildlife viewers

Provide adequate accessibility information

Include welcoming messaging

Improve participants' wildlife viewing skills

Incorporate opportunities for stationary wildlife viewing

Move at a slow pace

Upskill wildlife viewers for volunteer data collection



(Schleien et al., 1997; Brown, 2017; James et al., 2018; Karns et al., 2023; Sinkular et al., 2024)



Work with the disability community directly, rather than developing something separately and 'presenting' it to the community. This will likely increase buy-in. Establish advisory boards of disabled wildlife viewers and network with local disability organizations.

(Schleien et al., 1997; National Recreation and Park Association, 2018)



More information is needed about **all trails and programs** to support disabled wildlife viewers in making informed decisions about where to visit, including:

Parking availability, including van accessible parking spaces

Drinking water availability

Bathrooms, including accessible bathrooms

Trail surface/s, distance, width, gradient, cross slope



Photos showing trail conditions and obstacles

Location of any obstacles (might be seasonal)

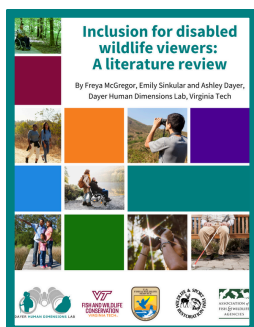
Benches, resting areas, view points

Other trail users, including cyclists, horseback riders, dogs on or off leash

Contact info to confirm trail conditions

(Access Recreation, 2013; Schahfer & Robison, no date)

Find the full literature review, more details and complete references:



Sign up for emails to stay up-to-date about future resources at tinyurl.com/DayerLabDisabilityEmailList

Contact Freya McGregor: freyamcgregor@vt.edu

Or visit viewing.fishwild.vt.edu/inclusion-for-disabled-wildlife-viewers

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