

Candace Gallagher, American Trails  
And Others

Greetings, I hope that this note finds you doing well and staying safe and healthy.

I enjoyed over 31 years of my federal career, first as a landscape architect (PLA), then as a project manager (PMP), for the National Park Service. I had the privilege of completing many significant – and even several very high profile – NPS projects across our great country. I also worked three years for the U.S. Forest Service in the early 1980s.

Of note, I provided project management and implementation expertise to three very successful projects at the Statue of Liberty National Monument, in New York Harbor, between 2008 and my retirement in 2014. I also worked on many diverse projects in many other National Park Service units in over 20 unique states. I participated in many NPS projects, either designing, or managing the project through design and NPS Washington Office approvals. Project types included: road projects, trailheads, parking areas, signage, bicycle trails, natural surface trails, visitor center designs, maintenance facility and water treatment plant designs, and natural resource and cultural resource compliance projects. For three years, I consulted with the NPS' Rivers, Trails & Conservation Assistance program on several significant partnership projects in the NPS' Rocky Mountain Region.

Along the way, I completed many trail consultant projects, as a paid consultant on weekends. And I also gave many presentations including the Colorado Trail Symposium (several), the National Trail Symposium (several)) and training workshops (many in Colorado, one in Virginia) having to do with various aspects of sustainable trail work. In particular, I conducted three webinars for American Trails in 2014, before my retirement from the NPS.

I was the original proponent of the concept of specifically-defined Sustainable Mountain Trails. I began advocating the priority to strive for a mountain trails sustainability ethic in the late 1980s and then formalized that concept in a 4-page professionally published paper at the behest of my trail friend, Stuart Macdonald (then at Colorado State Parks, Trails Program Coordinator, and later with American Trails), in January 1991. In 2007, at the request of – with funding from – the NPS' Washington Office, I produced the NPS' Guide to Sustainable Mountain Trails Sketchbook, 2007 edition (a.k.a.: "Sketchbook"). This 164-page highly-graphic document suggests a process outline and also provides many examples of how to manage state-of-the-art sustainable mountain trail projects from inception to completion. My 2007 "Sketchbook" document is my hallmark document, replacing my 1992 Mountain Trails Management document. My original definition for Sustainable Mountain Trails (1991 and 1992) is much quoted and used by many organizations as a guide to their trail activities.

My Key Sustainable Mountain Trails Documents as well as my Professional Sustainable Trails Résumé follows. I look forward to hearing from you. I appreciate your time. Feel free to contact me if you have any questions. Thank you.

Sincerely,

/s/ Hugh A. Duffy

To: Candace Gallagher, American Trails, and Others

**Hugh A. Duffy, Key Sustainable Mountain Trails Documents**

- 2014 American Trails Webinars (leader and presenter) Sustainable Mountain Trails  
1. “Foundations: It Can Be Done, You Can Do It!”  
2. “Fundamentals: One Trail at a Time / One Mile at a Time!”  
3. “Towards a Mountain Trail Sustainability Ethic ...”
- 2007 Guide to Sustainable Mountain Trails, An Assessment, Planning & Design Sketchbook (a.k.a.: “Sketchbook”) (for the National Park Service, highly graphic, 164 pages).
- 2006 Sustainable Mountain Trails, A Sketchbook, Tools and Techniques for Successful Trails Advocacy (for the Colorado Outdoor Training Initiative (COTI) which is now the Outdoor Stewardship Institute (OSI), highly graphic, 132 pages)
- 1992 National Park Service Reference Manual 77, Backcountry Management Guideline (Contributor on Backcountry Trails Sustainability), also, see quote below.
- 1992 Mountain Trails Management: An Outline with many appendices (235 pages)
- 1991 Developing Sustainable Mountain Trail Corridors: An Overview (4-page newsletter)

**Foundational Definition of Mountain Trail Sustainability**

*Sustainability of backcountry trail corridors is defined as the ability of the travel surface to support current and anticipated appropriate uses with minimal impact to the adjoining natural systems and cultural resources. Sustainable trails have negligible soil loss or movement and allow the naturally occurring plant systems to inhabit the area, while allowing for the occasional pruning and removal of plants necessary to build and maintain the trail. If well-designed, built, and maintained, a sustainable trail minimizes braiding, seasonal muddiness and erosion. It should not normally affect natural fauna adversely nor require re-routing and major maintenance over long periods of time.*

*– NPS Reference Manual 77, Backcountry Management Guideline, 1992, also similarly defined in 1991.*

Please contact me directly for a complete Sustainable Trails Résumé or for technical assistance. Maybe I can help your agency or non-profit organization strengthen your approach to Sustainable Mountain Trails through research, communication / creative document production (BMPs or Guidelines), Case Study documentation, a “walk & talk” training, a webinar, building capacity, or an on-site project visit. Thank you, and I look forward to hearing from you.

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## Professional Sustainable Trails Planner, Field Workshop Trainer, Webinar Trainee

I am the original proponent of expressly sustainable mountain trails. I first published my unique concepts and definition for sustainable mountain trails in January of 1991 at the behest of my trail friend Stuart Macdonald, then the Colorado State Parks State Trails Program Coordinator. At that time, I found that popular trails literature addressed many important aspects of trail planning, design and construction, but not specifically environmental sustainability which by premise would protect natural and cultural resources; and I have largely focused on the trail-side aspects of sustainable trails development since that time with my trails-related work. I have also conducted much trail research and conducted many trail trainings and a few webinars.

## Appalachian National Scenic Trail (A.T.) Projects

In November and December, 2020, I conducted two projects for Shenandoah National Park.

1. *Cultural Context Training Workshop* for Potomac Appalachian Mountain Club staff / volunteers and Shenandoah National Park staff.
  1. For this project, I conducted field research into the cultural context of trail work on the Appalachian National Scenic Trail in Shenandoah National Park. (See no. 2 below, Field Evaluation.)
  2. I prepared a 30-page hand-drawn field “*Workbook*” for use during a 2-day on-site “*walk & talk*” training workshop.
  3. This hand-drawn field “*Workbook*” and 2-day training was modeled after my previously-produced field workshops, checklists and workbooks.
  4. I conducted four (4) 1/2-day training modules (2 days) at locations I determined on or near the Appalachian Trail in Shenandoah that would be appropriate (Compton Peak, Compton Gap, Mary’s Rock and White Oak Canyon) for 15 students, a mix of PATC and NPS staff.
  5. I created many innovative / customized products for the training workshop, including:
    1. A preliminary draft of “*A.T. Construction Periods in Shenandoah National Park*”
    2. “*What is damaging the Trail?*” outline for discussion
    3. “*What is damaging CCC-era Dry Stone Walls?*” outline for discussion
    4. “*Dry Stone Wall Investigation & Triage Methodologies*” (cultural resource preservation oriented)
  6. I produced a 50-page *FINAL Cultural Context Training Workshop Workbook* for the park and the PATC in Adobe InDesign, dated December 2020, disseminated in March 2021.
  7. I prepared a jump drive of ~ 100 files of popular / pertinent trails literature for the students, at their request for key trail information and best management practices.
2. *Field Evaluation Report* (“*Final Version for Distribution*” rev. April 20, 2021) – Appalachian National Scenic Trail in Shenandoah National Park.
  1. The *Statement of Need* for this project required me to conduct a field evaluation of the A.T. in Shenandoah National Park, by hiking the A.T. twice, once northbound and once southbound. The purpose of my field work was to evaluate the setting of the A.T., combined with presumptive widths for a National Register (N.R.) boundary, to make recommendations to the park staff for moving forward with their delineation of a N.R. boundary for the Trail in Shenandoah. The limits of my field work were Jarman Gap to the northern park boundary.
  2. During the research and preparation for both the Cultural Context Training Workshop and the Field Evaluation, I produced many innovative / customized Trail products including:
    1. A preliminary draft of “*A.T. Construction Periods in Shenandoah National Park*”
    2. CCC-era Character Defining Features rubric
    3. Definitions for a Shenandoah Characteristic Landscape
    4. Customized Foreground, Middleground and Background View Zones
    5. Landscape Features & Considerations
  3. I produced a 64-page *FINAL Field Evaluation Report* in InDesign.
  4. My report concluded with the “*Recommendation of a Combined A.T. & Skyline Drive National Historic Landmark*” nomination, while also offering a “*Consideration for Singular A.T. National Register Nomination for Shenandoah National Park.*”

### **Webinar Trainer / Webinar Leader / Seminar Leader**

In 2014, at the request of Stuart Macdonald and Candace Mitchell of American Trails ([americantrails.org](http://americantrails.org)), I conceived of and produced a sequential 3-webinar series on Sustainable Mountain Trails. Independent of my consultation with American Trails, I also produced a multidisciplinary seminar for TTU Landscape Architecture students.

1. Foundations – “It Can Be Done, You Can Do It!”
2. Fundamentals – “One Trail at a Time / One Mile at a Time!”
3. “Towards a Mountain Trail Sustainability Ethic ...”
4. Texas Tech. University (TTU ) 3-hour Student Seminar – “Interdisciplinary Role of Landscape Architects.”

### **Sustainable Trail Presentation Highlights / National Trail Symposium Presentations**

1. At the 2008 National Trail Symposium, I presented a PPT slideshow: Sustainable Mountain Trail Sketchbook Case Study – Eagle Cliff Trail Network @ Rocky Mountain National Park in Little Rock, Arkansas. Resource data was analyzed in GIS portraying suitability for trail corridors, and the Rocky Mountain National Park east side trails foreman and I presented the conceptual level alternatives analysis and recommendations process for a network of trails up Eagle Cliff Mountain for a draft presentation to management.
2. At the 2006 National Trail Symposium, I presented the “Art” half PPT slideshow of the Art & Science of Sustainable Mountain Trails Module in Davenport, Iowa.
3. At the 1998 National Trail Symposium I presented a traditional slideshow: Sustainable Mountain Trails – Experience along Colorado’s Front Range in Tucson, Arizona.
4. At the 1984 National Trail Symposium in Russellville, Arkansas, I presented a traditional slideshow: Use of Trail Design Drawings to Promote Project Success. At this symposium I focused on my trail work while stationed at Buffalo National River in Arkansas.

### **Sustainable Trail Presentation Highlights / Colorado Trail Symposium Presentations**

1. At the 2001 Colorado State Trail Symposium in Winter Park, Colorado, I presented a PPT slideshow: Lessons Learned from Lory State Park, Colorado.
2. At the 1990 Colorado State Trail Symposium in Pueblo, Colorado, I presented a traditional slideshow: Sustainable Mountain Trails. This was the initial description in the world of trails literature calling for sustainability to be considered when developing conceptual level trail projects.
3. At the 1988 Colorado State Trail Symposium in Boulder, Colorado, I presented a traditional slideshow: Recent Project Experiences with Volunteers.
4. At the 1986 Colorado State Trail Symposium in Denver, Colorado, I presented a traditional slideshow: Optimizing Your Return from Volunteers. (Also, this same presentation was given to the Outdoor Volunteer Network in 1986.)

### **Professional Sustainable Trails Planner & Workshop Trainer**

I have been an on-the-ground professional sustainable trails trainer. I independently developed the Sustainable Trails Sketchbook / Workbook / Field Workshop / Topical Instructor Checklist training process. The purpose of the on-site “walk & talk” trainings is to provide students with the skills to confidently develop recommendations for sustainable mountain trail projects (assessment, planning, design and implementation) with consideration to landscape architectural and sustainability principles and according to state-of-the-art project management tools and techniques.

In the fall of 2020, I (Azimuth Trails, Inc.) conducted a 2-day Appalachian National Scenic Trail – Cultural Context Workshop at Shenandoah National Park for both NPS staff and Potomac Appalachian Trail Club (PATC) volunteers, which 15 students attended. I created a hand-drawn workshop workbook (by necessity in the field) for the workshop, I identified and prepared outlines for (4) 1/2-day venues to discuss cultural compliance issues on the Trail, in “walk & talk” format. I created a 50-page (professionally produced (Final March 15, 2021)) highly graphic workshop summary

workbook (patterned after my *Sustainable Mountain Trails Sketchbook, 2007 edition*) in Adobe InDesign software upon my return home.

In April 2016, I (iGenesis Consultants, LLC) conducted an Earth Day 2016 Trails Training Seminar for (Rabbit Mountain) Boulder County Parks and Open Space, Colorado. This one day seminar was entitled: “*Sustainable Mountain Trails - A Context for Conversation.*” The purpose of the training was to introduce the concept of sustainable mountain trails according to the *Sketchbook* process to Boulder County agency staff, as well as local agency and non-profit staff. I produced a training Workbook with the assistance of Boulder County staff (Zephyr McConnell) (several reviews) and was co-instructor in a 1-day field seminar. Approximately 20 staff and volunteers participated in the seminar. The final products were entitled: “*Boulder County Colorado Earth Day Sustainable Mountain Trails - Training Workbook - A Context for Conversation*”; and “*Boulder County Colorado Earth Day Sustainable Mountain Trails - Training Checklist - A Context for Conversation.*”

Previously, with my *Sketchbook* co-authors, I developed a 1-day (Cal Wood Nature Center) and 2-day *Introductory* Field Workshop (USFS Leadville Ranger District, Mount Elbert (Colorado Fourteener’s Initiative) and Rocky Mountain NP) as well as a 2-day *Intermediate* Field Workshop (Rocky Mountain NP). For the Intermediate class I used GIS information for planning purposes for the Eagle Cliff Trail Network. In June of 2012, I put on a 2-day *Advanced* Field Workshop in the *Sketchbook Process* for Rocky Mountain NP for NPS staff, other agency staff and OSI students for the MacGregor Ranch Trail Network. These were all “walk & talk” trainings.

For the Outdoor Stewardship Institute (OSI) of Volunteers for Outdoor Colorado (VOC), I was a Master Instructor (MI). I created the original “walk & talk” method of training trail advocates, starting in 1985 for VOC. I was successful at creating a sustainable trails culture at VOC, from project inception through completion. I mentored many state park staff and volunteers along the way. I currently use comprehensive checklists that match my *Sketchbook* outline to develop training initiatives.

### **Sustainable Trails Researcher / ~ Archivist**

As I continue to update my perspective and to pursue innovative solutions regarding mountain trail sustainability, I have compiled an extensive digital library of Sustainable Trails-related documents. This helps me develop state-of-the-art solutions and advice on Sustainable Trails. I have many unique documents archived and available to share.

As a result of my research for my Appalachian Trail National Scenic Trail projects in Shenandoah National Park in the fall of 2020, I found other significant and previously not-widely-known documents, and tabulated / forwarded these to Shenandoah staff.

### **Sustainable Trails – Author**

1. In April 2021, I (Azimuth Trails, Inc.) produced a (Final Version for Distribution 4.20.2021) *Field Evaluation Report* for the Appalachian Trail in Shenandoah National Park. I conducted field work over a two-week period in Nov / Dec 2020, focusing on the setting of the Appalachian Trail high up on the crest of the North-Central Virginia Blue Ridge Mountains. I hiked the Trail in Shenandoah two times, once northbound and once southbound. I created customized tools and techniques for scenery analysis for this project. I independently produced a 64-page highly graphic report (patterned after my *Sustainable Mountain Trails Sketchbook, 2007 edition*) advocates for a defensible process to determine an appropriate national register boundary for the Trail in Shenandoah. I made recommendations also for the combination of the A.T. with Skyline Drive in Shenandoah National Park as a National Historic Landmark. Park staff and management will provide comments internally to the Northeast Regional Office of the NPS, as well as externally to the Virginia SHPO’s Office, on the historical documentation boundary(s) of the Trail moving forward. (Also: see Workshop Trainer above.)
2. City of Boulder (Colorado), Open Space & Mountain Parks. *Draft Guidebook to Sustainable Mountain Trail Planning, Design, Construction & Maintenance (2016).*

3. In 2012, at the request of the Washington Office and in support of the National Park Service's effort to balance public use of National Park units via bicycles with resource protection via their publication of the *Final Rule Authorizing Bicycle Use 36 CFR 4.30* ("*Final Rule*").
4. For Nyungwe National Park, Rwanda, Africa, was co-author with Don Sharlow, *Guide to Sustainable Mountain Trails Sketchbook for Nyungwe National Park*. Based on the U.S.N.P.S' *Sketchbook*, this Guidebook included Management Strategies, Recreation Accessibility recommendations, etc.
5. National Park Service's *Guide to Sustainable Mountain Trails: Assessment, Planning & Design Sketchbook, 2007 Edition*.
6. *Sustainable Mountain Trails Sketchbook: Tools & Techniques for Successful Trails Advocacy, 2006 Edition* (for Colorado Outdoor Training Initiative (COTI) now referred to as the Outdoor Stewardship Institute (OSI) a Colorado nonprofit organization).
7. I was the project manager and lead author on *Heritage Trails – Strengthening A Regional Community*, for 9 counties in southwestern Pennsylvania, 1994. It is available for download at: [http://workflow.den.nps.gov/8\\_Transportation/docs\\_and\\_studies\\_transplan.htm#Heritage1995](http://workflow.den.nps.gov/8_Transportation/docs_and_studies_transplan.htm#Heritage1995).
8. In 1992, for the National Park Service, I synthesized my concepts of Mountain Trails Management into *Mountain Trails Management: An Outline* (56 pages, in landscape booklet format) with also many appendices (179 pages) with pertinent trail information.
9. In 1991, I provided professional landscape architectural comments on the draft *NPS 77 – Natural Resources Management Guideline*. Note: NPS 77 was later incorporated into *Director's Order 77*, and my original language remains largely intact.
10. In January 1991, for the Colorado State Trails Program, I synthesized my concepts for Sustainable Mountain Trails into *Developing Sustainable Mountain Trail Corridors: An overview* (4 pages in Newsletter format, for inclusion in the Colorado State Trails Program Newsletter).

### **Sustainable Trails – Workshop Leader & Workshop Trainer**

I developed a 2-hour *Sketchbook Classroom Workshop* for university students (University of Denver Project Thailand students (2006, 2007, 2008), and the University of Colorado at Denver's Urban Planning Studio (2006)).

At the 2005 Colorado State Trail Symposium in Broomfield, Colorado, I conducted a 1-day Field Workshop in the *Sustainable Trail Sketchbook Process* for symposium attendees on behalf of COTI.

In 2001, I organized and conducted a 40-hour training for Colorado State Parks in *Sustainable Mountain Trails*, at Golden Gate Canyon State Park.

### **Sustainable Trails Consultant (1997 – 2012)**

I continued my interest and growth in promoting sustainable trail projects by being hired as a paid consultant (on weekends – 1997 to 2003, and again in 2011 / 2012) during which time I produced a trail sustainability assessment (1) for Hayden Green Mountain Regional Park, as well as conceptual level trail plans (11) a wide variety of trail types and stakeholders for Bear Creek Lake Regional Park (GIS and GPS data was used to analyze topographic and resource data regarding suitability for trails), Roxborough State Park, State Forest State Park, Stagecoach Reservoir State Park, Golden Gate Canyon State Park, Green Ranch Wildlife Property, Steamboat Lake and Pearl Lake State Parks, Lory State Park, and Hayden Green Mountain Regional Park (under construction in 2011 and 2012), all in Colorado. These plans exhibited a wide variety of trail frameworks, purposes, as well as goals and objectives.

I also produced trail designs (5) for The New Mule Deer Trail at Golden Gate Canyon State Park, The New Willow Creek Trail at Roxborough State Park, the East Valley Trail, the West Valley Trail and South Valley Trail – all at Lory State Park as well as Mount Carbon at Bear Creek Lake Park. These responded uniquely to the local environment as well as the intended user groups with consideration to nonprofit support.

In 2011 / 2012, I produced two trail designs for Golden Gate Canyon State Park, Colorado. The first, the Beaver Trail Extension from the main park area to the recently acquired Green Ranch Property, evaluated 3 alternative alignments to keep the extension on public land with quantifying summaries for each, the detailed field notes for construction by a design / build firm. The two-page Final Report summarized required construction details from my Sketchbook for 2.1 miles of trail. This combined with a 217 point GPS output in tabular format with notes and difficulty ratings, will allow the client to prioritize segments for implementation. The second, for the Rehabilitation of the Horseshoe Trail, included a 2.5 page Final Report, as well as a 435 point GPS output in tabular format with notes and difficulty ratings. This project was significant in that I recommended rehabilitating / armoring the entire length of the existing Horseshoe Trail alignment along a creek over creating a new alignment which would have obligated Colorado State Parks to restore the original heavily impacted corridor to natural conditions. The combined cost of both the restoration of the old corridor plus the construction of what would have been a new corridor would have been far greater than simply restoring the existing corridor. Custom creek-side details including bank stabilization and a variety of stone stair / stepping stone and other stone details to protect the trail tread during high water flows.

In 2016, I submitted Grant Package Attachments for both State Forest and Stagecoach Reservoir State Parks to CSP staff Louise Moeller. (Alas, the Grants were unsuccessful.) They were entitled: State Forest State Park & Stagecoach Reservoir State Park Sustainable Bridge and Boardwalk Planning Grant, January 2016.

### **Staff Project Manager or Designer to Internal National Park Service Trail Projects**

I have been privileged to work on a wide variety (regional variances, ecosystems types, natural and cultural resource types) of trail projects internally for the National Park Service, continually growing and increasing my toolkit of skills which reflect the requirements of a diverse set of park managers and stakeholders, including resource staff, permitting agencies, user groups and non-profit stakeholders. My efforts have been based upon landscape architectural principles, ecological restoration and with environmental and economic sustainability the overriding themes. The following projects are just an outline of my trails-related project activities for the National Park Service. I completed many other design and construction projects for the NPS.

- 2013 FINAL Childs Park CCC-era Rehabilitation (day use / picnic area, trails, historic structures and bridge rehabilitation), Delaware Water Gap National Recreation Area, Pennsylvania  
This document summarizes and displays the final results of the *Sketchbook* process on this outstanding craftsmanship project. This project will likely be submitted to ASLA or a similar organization for consideration of planning, design or stewardship awards. See *2010 Draft* description below.
- 2013 Big Hollow and Raymer Hollow Extension Trails Field Review Before Construction, Mammoth Cave National Park, Kentucky  
This project was held up in compliance and final design review when I was asked by park management to review the construction plans and make additional recommendations for final design and approvals to allow construction. I produced a Summary Package including 4 documents:
1. An MS / PPT summary of findings and recommended next steps
  2. Annotated Plans containing a Field Review of the Proposed Alignments as well as Recommendations for Refinements to the Proposed Alignment
  3. A GPS route export / tabulation of recommended routes
  4. A sketchbook package of recommended improvements.
- 2010 DRAFT Childs Park CCC-era Rehabilitation (day use / picnic area, trails, historic structures and bridge rehabilitation), Delaware Water Gap National Recreation Area, Pennsylvania  
This project will rehabilitate recreational trails in a Cultural Landscape context. Craftsmanship of timber and stone has been prescribed under my direction to draw on the historic themes of this CCC-era project. This project will be a regional draw for tourism and leisure activities in this densely populated region.
- 2008 Roosevelt Farm Lane Rehabilitation, Home of Franklin D. Roosevelt, Hyde Park, New York

This is a multiple use pathway project connecting two trailheads approximately 1.8 miles apart in Hyde Park New York, linking FDR's Bellefield Mansion with Eleanor's Val Kill Cottage. I managed the design and compliance process, as well as the solicitation process for construction. This project is extremely popular, inviting tourists to experience the significant cultural resources of the Hudson River Valley. I attended the dedication ceremony on November 15, 2008 at the request of the superintendent.

2007 Grant Kohrs Ranch House Accessible Trail, Grant Kohrs National Historic Site, Deer Lodge, Montana

I independently conducted 2-day workshop to assist park superintendent in determining appropriate improvements for the Ranch House Access Trail and city of Deer Lodge connections. With assistance from a civil engineer, forwarded draft survey task order and draft cost estimate. Determined appropriate community connections to Deer Lodge, Montana initiatives. I produced a MS PowerPoint summary document of all recommendations.

2007 Georgetown Waterfront Park – Phase I as well as Phase III – Multiple Use Greenway, Rock Creek Park, Washington, D.C.

This project was the last public space along the Potomac River in Washington D.C. for the National Park Service to develop and manage. Georgetown Waterfront Park is a modern park with many amenities which make it a desirable attraction to residents and visitors to Washington D.C. It connects the C&O Canal's confluence with the Potomac River, the Georgetown Multiple Use Greenway and the Promenade Extension from the Swedish Embassy downstream to the John F. Kennedy Center for the Performing Arts. I managed all aspects of this project from March 2004 through June 2007, including Development Advisory Board submissions, presentations to National Capital Planning Commission, U.S. Commission of Fine Arts and Advisory Neighborhood Commission stakeholders, solicitations for design, and solicitations for construction. I provided construction inspections as necessary on Phase I. I also obtained commitments for ~ \$800k funding from the D.C. government to the NPS.

2006 Foothills Parkway Multiple Use Trail, Great Smoky Mountains National Park, Tennessee

I provided consultation services to the project manager on state-of-the-art sustainable mountain trail management recommendations. I produced design spreadsheet of tasks, staff hours, travel estimates and miscellaneous costs for Trail Design Component (15 miles) of the Foothills Parkway EIS. I organized, managed & produced a *Trail Technology Presentation* for DSC Transportation management, the design / compliance team, emphasizing the need to comply with Executive Order 13906 as well as to produce, manage and exchange information on the trail design throughout the design process with efficiency. I also produced a pathways standards comparison matrix for walking paths, accessible routes, hiking, and mountain bicycling and equestrian trails for use by management. The matrix included optimum cross slope ranges, build-able cross slopes, widths, clearing dimensions, surface material recommendations, and geometric requirements.

2004 Sandy Hook Multiple Use Path, Gateway National Recreation Area, New Jersey

I managed Denver Service Center and park staff input into the compliance process, providing leadership to the production of the Environmental Assessment. I obtained a FONSI. Issued solicitation documents for a design build construction project. Issued and managed topographic survey and archaeology task orders. I managed the construction project and provided on-site inspection services. This project was in a sensitive ecological area, including a maritime forest with large vegetation that had to be protected, as well as through sand dunes which had to be sculpted to allow the trail through and revegetated immediately to prevent loss of the dunes. Both resources were protected admirably resulting in outstanding project success.

2001 Minute Man Trail, Minute Man National Historical Park, Massachusetts

This project recommended site improvements at the North Bridge area of Minuteman National Historical Park. On this project I acted as a consultant to the Superintendent. Conducted On-Site Mini-Value Analysis, prepared Draft Value Analysis Summary. I commented on MIMA-produced Development Advisory Board submission materials and presentation. My consultation was successful as the superintendent received DAB approval in September 2001.

1999 Rockaway Gateway Greenway Phase II – Cross Bay Boulevard, Gateway National Recreation Area, New York



This 1.8-mile-long multiple use pathway project connects the community of Broad Channel, the Jamaica Bay Wildlife Visitor Center (the only urban wildlife refuge managed by the NPS) and North Channel Bridge. It was completed via a design build construction contract. Waysides were provided for visitors to learn of the ecology of the wildlife refuge. I prepared Design Approval documents for submission New York State's Department of Environmental Conservation for funding, which was granted.

- 1999 *Battlefield Trails and Overlook*, Palo Alto Battlefield National Historic Site, Texas  
This project provided access from the Palo Alto Visitor Center (a previous project) to the Battlefield Overlook. As the landscape of south Texas is very flat, the trail was raised to provide a viewpoint of the south Texas plain. This project has been successful in helping visitors understand the movements of this significant battle of the Mexican American War.
- 1996 *Visitor Access & Pedestrian Circulation*, Thomas Stone National Historic Site, Maryland  
This project provided a hierarchy of solutions for safe visitor access to the grounds of Thomas Stone. Full ADA accessibility was provided in the Visitor Contact Station, which transitioned to recreation accessibility for the walk to the family cemetery and then Thomas Stone's Mansion.
- 1995 *Rockaway Gateway Greenway Phase I – Flatbush Avenue*, Gateway National Recreation Area, New York  
This project along Flatbush Avenue in Brooklyn connected the Belt Parkway with the Ryan Center and the entrance to Floyd Bennett Field. We included artwork in the fencing, and we created a large plaza adjacent to the Ryan Center for informal visitor activities.
- 1994 *Allegheny Portage Trail – Summit Level to Foot of Ten*, Pennsylvania
- 1994 *Allegheny Portage Trace Corridor Plan*, Pennsylvania
- 1994 Johnstown Flood National Memorial, *Johnstown Flood and St. Michael Circulation Plan*, Johnstown, Pennsylvania  
This plan recommended regional linkages from the dam above St. Michael to the town of St. Michael to improve regional recreational opportunities.
- 1995 *Heritage Trails – Strengthening a Regional Community*, southwestern Pennsylvania  
For this project for the Southwestern Pennsylvania Heritage Preservation Commission, I provided leadership, coordination and management to the project team. I coordinated with and adapted to many agency and stakeholder needs, including the SPHPC, the Commonwealth of Pennsylvania, 9 county heritage preservation committees, user groups and interest groups. I independently coordinated, managed and carried out professional planning style visioning, identified resource values and significance, as well as issues, concerns and opportunities workshops for the region. I provided independent leadership to historical, cultural and interpretive specialist input in approved planning initiatives. Initiatives were input into GIS for display of the proposed network as a poster. Our project laid a strong foundation through conceptual level planning for continuation of over 100 trail initiatives in the region.
- 1994 *Conemaugh Greenway Plan*, Johnstown, Pennsylvania  
This regional plan encouraged the development of alternative transportation and recreational facilities along the Conemaugh River downstream from Johnstown. This project was completed in association with the Philadelphia Regional Office of the National Park Service.
- 1987 *Exit Glacier Trail (ADA Accessible in close proximity to a glacier)*, Kenai Fjords National Park, Alaska, extensive grading and drainage was required to establish this trail. Site improvements as well as parking improvements were recommended on a short construction schedule.
- 1985 Buffalo National River, Arkansas (all natural surface hiking trails) (Note that I was duty stationed at Buffalo National River from 1983-1985 as a Denver Service Center project supervisor in support of construction projects on going there, as well as day-to-day operations as a de facto park landscape architect. It is here that I first experienced trail design in the field.
1. *Kyles to Hemmed-in-Hollow Trail, Phases I and II* - These were Student Conservation Association (student field experience) which for Phase I I hosted, and then for Phase II I both designed and then hosted the SCA teams and the American Hiking Society (Volunteer Vacations Projects) teams, providing all necessary field logistical support to all.
  2. *Buffalo National River Parkwide Trail Plan* - Field and logistical support to the Denver Service Center-based parkwide trail plan.
  3. *Fitton Cave Emergency Egress Trail Plan* - Design and construction support to this short trail segment for internal NPS day labor construction.

4. Point Peter Trail Concept Plan - A concept plan to show how the River-long Trail planned for Buffalo National River might coincide with this short loop and spur system trail for Point Peter, a prominent scenic overlook point in the park.

### **National Park Service (NPS) Rivers, Trails & Conservation Assistance Projects (1989 – 1992)**

1. Telluride Region Pathways Plan, San Miguel County, Colorado.  
This project recommended conceptual level trail routes which would complement the Telluride Mountain Ski Resort and provide recreational alternative transportation pathways. Stakeholders included the Town of Telluride, the U.S. Forest Service and the Bureau of Land Management. I worked with the stakeholders to develop standards and guidelines (which were incorporated into the Land Use Code) which have guided overall implementation of the regional plan.
2. The Bear River Project Master Plan, Evanston, Wyoming.  
The Better Environment and River (BEAR) project forecast a conceptual level vision for rehabilitating the 'overlooked' Bear River as it traversed Evanston from city limit to city limit. This project has been an unqualified success. The master plan developed under my leadership provided the impetus for many projects which when implemented over time resulted in outstanding recreational facilities for this small city in southwestern Wyoming. I worked with the city planning office and the parks and recreation department to come up with standards and guidelines for development, as well as amenities to include. Restoration of key features such as the community's Red Bridge came as a result of the Master Plan.
3. Hams Fork Greenway Plan: A Community Linkage, Lincoln County, Wyoming.  
A conceptual level plan which linked three communities in southwestern Wyoming.
4. Green River Greenway Plan, Green River, Wyoming.  
A conceptual level plan for a greenway along the Green River in Green River, Wyoming, related recreational facilities were identified.
5. Black Hills Burlington Northern Heritage Trail, South Dakota.  
This conceptual level plan established a vision to preserve a 109-mile-long railroad corridor through the Black Hills of South Dakota. This project has been renamed the George S. Mickelson Trail. Natural and cultural features along the trail are now preserved and this trail is a significant regional tourism draw.

### **Government Regulations and Guidelines – Private Citizen Commenter**

As a private citizen, I have kept up to date on initiatives that affect the trails community and have provided detailed comments on the following documents:

1. 2011 – Office of Technical and Information Services, U.S. Access Board (Ref.: 36 CRG Chapter XI, RIN 3014-AA41), Shared Use Path Accessibility Guidelines.
2. 2009 – US Access Board's proposal for Recreation Accessibility Guidelines to be incorporated into the American's with Disabilities Act.
3. 2009 – National Park Service's Proposed Rule to Amend Bicycle Use in National Parks. See Sustainable Trails – Author above.

### **Trail Design Activities – Conservation Nonprofit Agencies**

Realizing the value of voluntarism from the non-profit community and their contributions to natural and cultural resource conservation, I have provided many consultations to Volunteers for Outdoor Colorado (VOC), projects committee, including technical advisor (landscape architect) to the following projects:

1. For the Summit Lake Tundra Restoration & Recreation Access Project in 2010 at Summit Lake Park (elevation 12,800 ft.), in Clear Creek County, Colorado, I trained the Wildlands Restoration Volunteers (WRV) project management team on standards and guidelines criteria for recreation accessible trails, as well as on the development of funding requests, project management and construction processes for this state-of-the-art high altitude restoration project.
2. National Park Service, Denver Service Center Employees Association Work Day at Roxborough State Park, 2007.

3. Roxborough State Park, South Rim Trail, Phase I and II (1988, 1989, 1990)
4. In conjunction with the Colorado Trail Foundation, was crew leader on Searle Pass, Camp Hale, Blue River and Twin Lakes projects (~1987, 1988, 1989, 1990)
5. Upper Beaver Meadow (Ute Trail) Trail, Rocky Mountain National Park, 1988.
6. Roxborough State Park, Carpenter Peak Trail, Phase I and II (1986, 1987).
7. VOC Board of Directors, 1986 – 1988.
8. VOC OSI Master Instructor, ~ 2004 through 2006.
9. VOC OSI Manual Reviewer. I provided professional sustainable mountain trails-oriented comments during the development of several OSI documents during their creation, ~ 2007.

### **Recognition – Conservation Nonprofit Agencies & Professional Society Awards**

- 2008 The Sketchbook, 2006 edition was nominated for a national *State-of-the-Art Design Award* from American Trails. Alas, it was unsuccessful.
- 2006 I received the Colorado Fourteener's Initiative's Conservation Leadership Award.
- 2006 I received two awards from the Colorado Chapter of the American Society of Landscape Architects (CC ASLA) for *Sustainable Mountain Trails Sketchbook: Tools & Techniques for Successful Trails Advocacy, 2006 edition*:
1. Merit Award – demonstrating excellence in professional landscape architectural practice
  2. Land Stewardship Designation – to be used as an example for other projects
- 2006 I was nominated for and was one of 6 finalists for the Colorado Outdoor Stewardship Award, for my production of the *2006 Edition of the Sketchbook*, as well as over 20 years of land stewardship activities in Colorado. Alas, I was a runner up.

### **Grant Reviewer – Colorado State Parks Recreation Trails Program**

- 2009 – 2014 As a professional service to the trails community, I reviewed and scored non-motorized trail grant requests, participated in an approximately 6-hour team conference call, and provided written and scored feedback to Colorado State Parks' staff. I reviewed approximately 10 grants / year average.

### **Education**

- 2023 For the Spring semester, 2023, I have been re-accepted to Red Rocks Community College in Lakewood, Colorado, to pursue a certificate in Computer Science.
- 2016 Red Rocks Community College, Certificate in Fine Woodworking, Lakewood, Colorado.
- 1980 Bachelors of Landscape Architecture, State University of New York (SUNY), College of Environmental Science & Forestry (CES&F), Syracuse, NY.
- 1979 Bachelors of Environmental Studies, SUNY, CES&F, Syracuse, NY.
- 1977 Associates of Liberal Arts, SUNY, Agricultural & Technical College, Farmingdale, NY.

### **Membership History**

1. American Trails, Member, 2013 – 2019.
2. Appalachian Trail Conservancy, Member, since 2003.
3. Appalachian Mountain Club, 2016 and 2022.
4. Potomac Appalachian Mountain Club, 2016.

### **Licenses, Certifications**

1. Master Instructor – Trails, Colorado Outdoor Stewardship Institute (OSI) (formerly Colorado Outdoor Training Initiative (COTI)), 2004 – 2006.
2. Project Manager Professional (PMP), 2004 – 2014.
3. LEED® Green Associate (GA), 2010 – 2014.
4. American Society of Landscape Architects – ASLA Member, 1984 – winter 2014/2015; ASLA Emeritus since spring 2015.

5. Professional Landscape Architect (PLA) (AR #120), 1985-2014.

**Appalachian Trail (a.k.a.: A.T.) National Scenic Trail, Section Hiker**

- ~ 1965 I first walked a short segment of the A.T. in Bear Mountain State Park, NY, at the Bear Mountain Inn and the Bear Mountain Zoo.
- 2005 – 2006 I hiked (2) separate sections of the Appalachian National Scenic Trail A.T. with my then-young boys, one section each in 2005 and 2006.
- 2008 ~ 2014 I hiked a short section of the A.T. at Delaware Water Gap National Recreation Area, NJ / PA, many times, (after field work on design and construction projects while on travel).
- 2016 – 2022 Building upon my mileage from 2005 and 2006, I have endeavored to work towards completion of my A.T. Section Hike, one week or two weeks or a month at a time. As of August 2022, I have completed ~1,970 miles and am therefore 90% complete. I have hiked continuous sections from Spring Mountain, Georgia through Kinsman Notch, NH (including GA, NC, TN, VA, WV, MD, PA, NJ, NY, CT, MA and VT). And I have completed both AMC Hut traverses (Franconia Notch to Crawford Notch as well as Crawford Notch to Pinkham Notch), and ~ 115 miles in Maine.

I hope to complete my A.T. Section Hike in 2023.

I have learned a tremendous amount about trails management during these Section Hike adventures on the A.T.

And I have learned a tremendous amount of the role that the A.T. as well as conservation non-profit agencies play in so many people's lives, including my own.

**Swim Instructor, High School Swim Coach, Professional Swim Consultant**

- 2015 I renewed my Water Safety Instructor (WSI) credential from the American Red Cross (current through 2022).
- 2015 I obtained a U.S. Masters Swimming Adult Learn-to-Swim credential (current through 2022).
- 2017 I obtained a Colorado High School Athletics Association (CHSAA) Coach Registration – “*Permanent*” (as I hold a Permanent Registration, there is no expiration).  
Brighton High School, Girls Swimming Head Coach 2017 – 2018.  
Brighton High School, Boys Swimming Assistant Coach 2018.  
Colorado Academy, Girls Swimming Assistant Coach 2019 – 2020.
- 2015 – 2020 I obtained and retain many high school certifications to enable me to coach high school swimming, including several coaching credentials, health and safety modules, aspects of youth protection, etc.

Being a swim instructor and coach has been a joy for the last 8 years. I have taught and coached several hundred swimmers in various capacities. Being a swim instructor and coach has brought me tremendous reward, not only in the results that I have seen and also how teaching swimming has more fully engrained me as a citizen in my community, while also providing a very necessary service to my neighbors.

I am currently a Water Safety Instructor for my home city, Lakewood, Colorado where I teach private lessons and also group classes. As I continue to hold and renew my American Red Cross WSI Certification, I adhere to American Red Cross policies, although my home city does not have a preference.

## Employment History

- 1980 – 1983 US Forest Service  
Various roles and responsibilities in temporary positions in several National Forests, especially regarding recreation inventories and scenic management of large tracts of public national forest lands using the USFS Scenery Management System.
- 1983 – 2014 National Park Service, Denver Service Center (DSC), Landscape Architect (PLA) & Project Manager (PMP)
- 1983 – 2014 Landscape Architect, designer 1983 – 2005, PLA: (Arkansas #120) 1984 through 2014. I had responsibility for design and compliance of many park development projects across the United States.
- 1983 – 1985 DSC Duty-Stationed at Buffalo National River, Arkansas  
I had responsibility for many park-initiated (small) site projects, as well as being a project inspector (Project Supervisor was the then-term) on DSC construction projects.
- 1987 – 1988 (Winter) As the DSC-Detailed landscape architect to Rocky Mountain National Park as park landscape architect, I designed park signs, including the now-famous Beaver Meadows Entrance Sign. I also formulated and got approval for ROMO's Backcountry Sign Standard.
- 1989 – 1992 National Park Service, Denver Service Center, detailed to the Rocky Mountain Regional Office's Rivers, Trails & Conservation Assistance Program (See above).
- 2005 – 2014 Project Manager, PMP, I had responsibility for design, compliance, budgeting, etc., and was ultimately responsible to Congress for the timely completion of my projects under budget. The hallmark project of my career was re-opening the Statue Of Liberty National Monument to much acclaim and all in accordance with the Sec'y's Standards for Historic Preservation (2008 – 2014).
- 2020 Lowe's Home Improvement Center, spring season Garden Center