



FINAL REPORT

get outdoors greeley.



PREPARED FOR THE CACHE LA POUDE INSPIRE COALITION

JULY 24, 2017

PREPARED BY

DESIGNWORKSHOP

get outdoors greeley.

The vision of GO Greeley is to foster a community that values and participates in the great outdoors through development of leaders of all ages, places and programs that connect youth and families to these places and each other, and lead young people to careers that embrace the amazing natural world.



63% of Youth and 66% of Adults Experience Nature at their Local Parks

60% of Greeley Youth spend 2+ Hours Outdoors on a Typical Weekday

68% of Youth and 81% of Adults had a Meaningful Experience in Nature That Encouraged Deeper Appreciation



Parks and Natural Areas Total 7% of Greeley's Land Area

Nationwide, 61% of Youth Spend 2+ Hours Outdoors on Weekdays

Nature in Their Community is Important to 77% of Youth and 92% of Adults

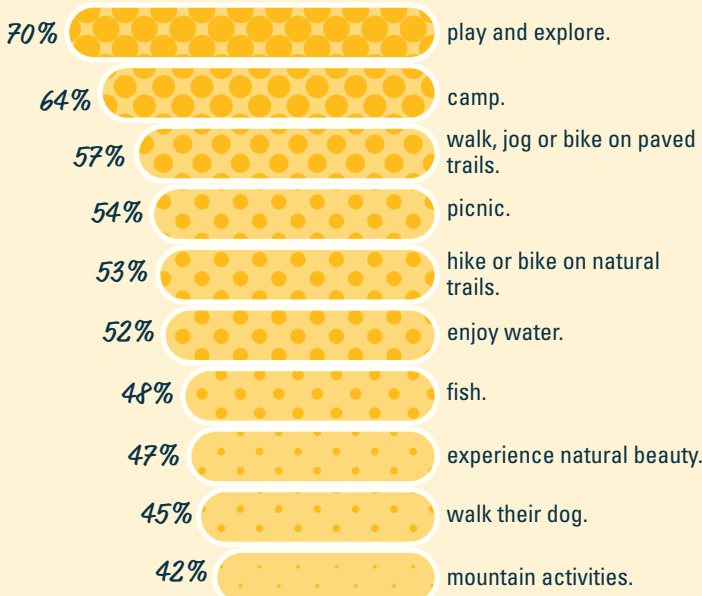


85% of Parents Would Like Their Children to Spend More Time Outdoors

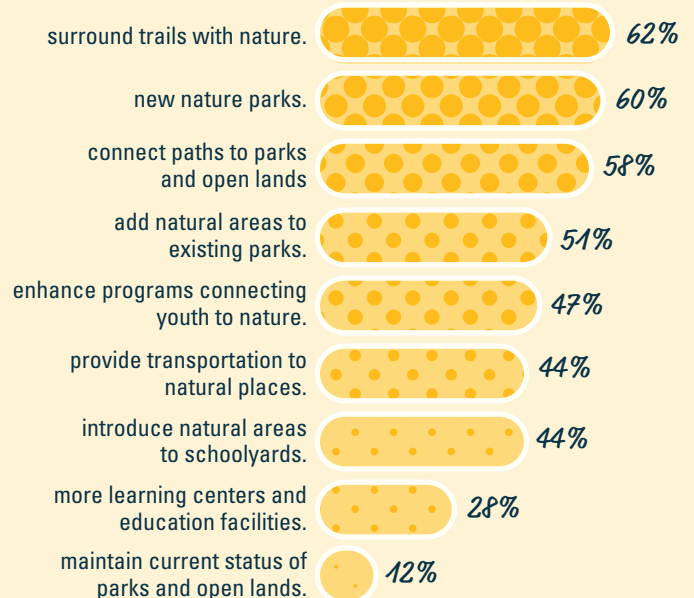
top 5 Barriers to Getting Outdoors

- 1 don't know where to go.
- 2 too busy.
- 3 no places of interest nearby.
- 4 no way to get there.
- 5 cost is too high.

Top 10 Things Youth in Greeley Like To Do Outdoors



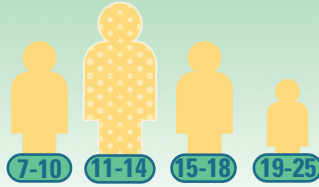
Improvements Needed to Encourage Youth to Spend More Time Outdoors



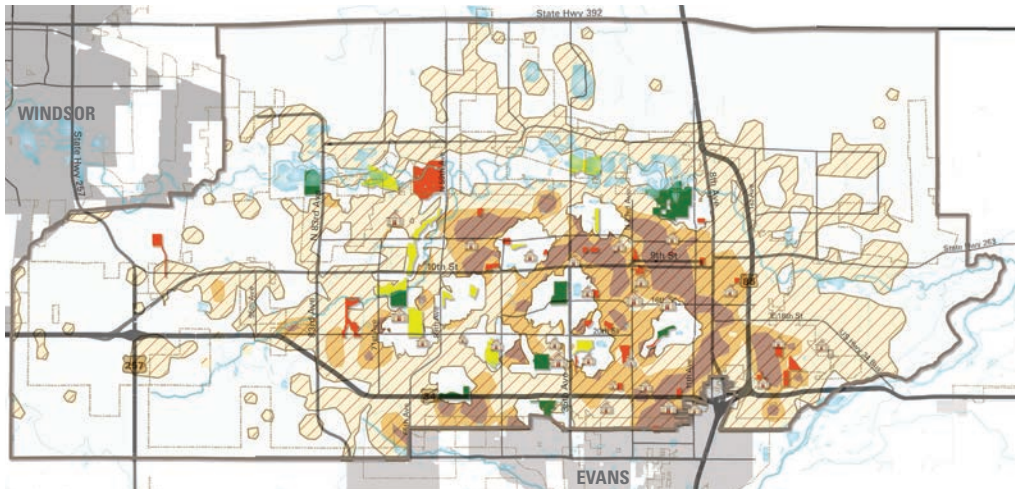
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youth DIRECTED DECISION- MAKING PROCESS

680 YOUTH MADE THEIR VOICE HEARD - DIRECTING DESIGN IMPROVEMENTS TO PLACES AND ENHANCEMENTS TO PROGRAMS



- BELLA ROMERO ACADEMY
- FRANKLIN MIDDLE SCHOOL
- NORTHRIDGE HIGH SCHOOL
- JERRY PAWL BOYS & GIRLS CLUB
- GREELEY-EVANS SCHOOL DISTRICT 6



GREELEYS NATURAL EXPERIENCE

- HIGH** Quality of the Natural Experience within a Park or Natural Area
- LOW** 'Nature Disadvantaged Area'
- HIGH** Priority Areas for Improvement to the Natural Experience
- LOW**

EAST MEMORIAL FOCUS AREA



PROGRAMS AND PATHWAYS

Greeley will work partnering HUBs to implement the GO Greeley Initiative.

- H** Bella Romero
- U** Jerry Pawl Boys & Girls Club
- B** Solida del Sol Academy

2,705

YOUTH PROVIDED OPPORTUNITIES TO PARTICIPATE IN OUTDOOR ADVENTURE, ENVIRONMENTAL LEARNING ACTIVITIES

40 INTERNSHIPS FOR HIGH SCHOOL AND COLLEGE STUDENTS

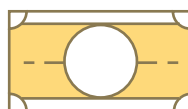
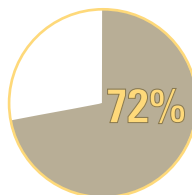


EAST MEMORIAL NATURAL AREA



7,200

RESIDENTS WOULD BENEFIT FROM IMPROVEMENTS TO THE NATURAL EXPERIENCE



\$38,078
 MEDIAN HOUSEHOLD INCOME
32%
 HOUSEHOLD BY POVERTY STATUS

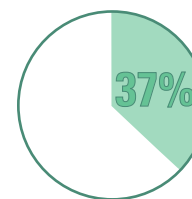


EAST MEMORIAL PARK



2,705

STUDENTS IN 3 NEIGHBORHOOD SCHOOLS WOULD GAIN ACCESS TO FRESH FOOD



12 COMMUNITY GARDEN PLOTS FOR NEIGHBORS

Get Outdoors Greeley Planning Report is dedicated to the current and future youth of our community to inspire and equip them to enjoy the great outdoors in their backyards, their community's parks and natural areas, and beyond into the rest of the world.

"It is an incalculable added pleasure to any one's sum of happiness if he or she grows to know, even slightly and imperfectly, how to read and enjoy the wonder-book of nature."

Theodore Roosevelt, 26th US President



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Planning

GET OUTDOORS GREELEY

- Context
- Participating Organizations
- Youth Advisors

PLANNING PROCESS

- The Process
- Community and Youth Engagement
- Barriers and Motivators
- Momentum
- Highlights and Challenges

GET OUTDOORS GREELEY

This Get Outdoors Greeley Planning Report, prepared for the Cache la Poudre Coalition, describes the existing outdoor opportunities in the City of Greeley, highlights the findings of an in-depth planning process and identifies implementation solutions to better engage youth and families in the outdoors. The final report provides a summary of the successful completion of a youth and community-driven planning process that will inform a Great Outdoors Colorado implementation grant application, potentially funding up to \$3 million in improvements to places, programs, and career pathways.

CONTEXT

In 2015, Great Outdoors Colorado (GOCO) awarded Inspire Initiative planning grants to 20 statewide coalitions including six pilot coalitions and fourteen Tier 2 Coalitions. The Cache la Poudre region was selected from more than 30 applications to receive a Tier 2 planning grant to further develop specific plans and programs to create or expand nearby parks and nature, improve access to existing outdoor natural areas or trails, and bolster youth programs. The Inspire Initiative vision is to influence Coloradans, particularly kids, to appreciate, enjoy and become stewards of our great outdoors.

The Inspire Initiative recognizes there is no one-size-fits-all approach to reaching Colorado's diverse communities, rather it relies on the expertise and support of local community coalitions. The Cache la Poudre Coalition formed to support this Initiative was integral to the overall direction of the local Initiative and input opportunities, including stakeholder identification and survey preparation.

CACHE LA POUFRE COALITION

The Cache la Poudre Coalition planning team, is comprised of individuals that describe themselves as committed to advancing GOCO initiatives in undeserved neighborhoods and improving outdoor experiences throughout the region. Its members represent city, county and local organizations with trusted community relationships and shared missions to serve youth and families. The Coalition will play a central role in connecting youth in Greeley to the outdoors and will collaborate with other entities working towards providing equitable outdoor access.

The Cache la Poudre Coalition includes a variety of governmental agencies, organizations and local program providers who are committed to advancing efforts in undeserved neighborhoods, and improving outdoor experiences throughout the region. Organizations represented in the Coalition and directing the planning effort include: City of Greeley Culture, Parks and Recreation department, the Poudre Learning Center, Greeley/Evans School District 6, Colorado Youth Outdoors, the Poudre Heritage Alliance and the Weld County Department of Public Health.

COALITION MEMBERS:

- David Sanchez **City of Greeley, Recreation Programs Manager**
- Karen Scopel **City of Greeley, Natural Lands Coordinator**
- Sarah Boyd **City of Greeley, Parks Planner**
- Gabby Petty **Poudre Learning Center, Community Outreach InSTEM VISTA**
- Holly Scott **Poudre Learning Center, Community Outreach InSTEM VISTA**
- Grace Fullmer **Poudre Learning Center, STEM Outreach Coordinator | VISTA**
- Ray Tschillard **Poudre Learning Center, Executive Director**
- Gregg Knoll **Colorado Youth Outdoors, Development Coordinator**
- Matt Lehr **Colorado Youth Outdoors**
- Leslie Beckstrom **Weld County Dept. of Health and Environment, MS, RD, Healthy Eating Active Living Coordinator**
- Shannon Elliot **School District 6, P.E., Science, and Induction Coordinator**
- Sarah Maisonneuve **West Greeley Conservation District, Community Education Coordinator**
- Samantha Wittrock **Weld County Health Department Intern. Community engagement focus**

YOUTH ADVISORS

The Coalition selected youth advisors between the ages eight to twenty-two to join a youth advisory committee and brainstorm ideas for providing youth with greater opportunities to interact and appreciate the great outdoors. Youth advisors were selected through an application and interview process. 30 applicants participated in this competitive process and 13 were selected for the youth advisory committee (see list below). The young volunteers brought a fresh perspective and helped identify ways to inspire other youth and their families to positively engage with nature in their backyards, schoolyards, parks and other places. Additionally, the youth advisors assisted in the identification of under-represented outdoor recreation opportunities and in the development of improvements and enhancements to programs, places and career pathways.

YOUTH ADVISORS:

- Piper, **AGE 8**
- Sarahi, **AGE 9**
- Jayden, **AGE 10**
- David, **AGE 10**
- Brendan, **AGE 12**
- Matthew, **AGE 14**
- Grayson, **AGE 14**
- Caitlyn, **AGE 16**
- Asepha, **AGE 16**
- Spencer, **AGE 16**
- John, **AGE 17**
- Dylan, **AGE 22**
- Harraz, **AGE 22**

PLANNING PROCESS

The following narrative summarizes the 3-step planning process developed to:

1. Collect information and forge partnerships; understand community needs; and, identify barriers and opportunities to engaging youth and families in the outdoors.
2. Generate ideas for improvements to places, programs and pathways and engage the community through listening sessions to vet ideas.
3. Develop conceptual plans for improvements to places; develop innovative programs and steps to support existing programs pathways; identify implementation steps for places, programs and pathways; and, identify resource needs.

Successful completion of the planning process in July of 2017 positioned the Cache la Poudre Inspire Coalition to apply for a \$1 million to \$5 million implementation grant from Great Outdoors Colorado.

STEP 1

COLLECT INFORMATION

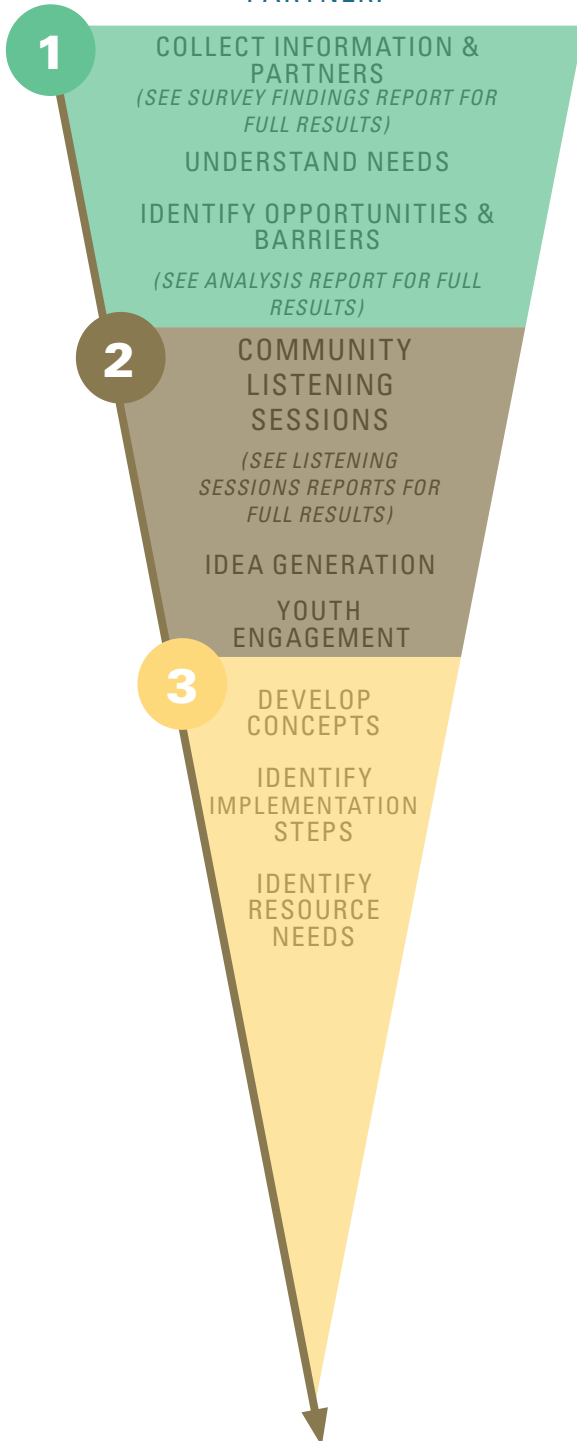
As an initial part of this process, a review of current literature on the topic of youth and nature and a community survey were conducted. The literature review combed through over 60 peer-reviewed journal articles and best practice publications that discuss the behavioral impacts of youth spending time outdoors recreating, environmental education and learning landscapes, park use and design, underserved populations, exemplary practices and stewardship. A full report of this literature review can be found in Appendix A. Key findings of the review include:

- Increased relationships between youth and the outdoors and nature holds behavioral benefits, builds trust in skills and comfort in outdoor spaces, increases physical activity and overall health.
- Unpaved trails and wooded areas are valuable amenities and parks with this amenity are more likely to be used for physical activities than parks without it and encourage “wild nature” participation.
- Proximity to parks is important to encourage youth and their families to spend more time outdoor
- Programming in parks enriches family experiences and outdoor recreation time spent with others, which is important for social support and friend groups
- Subgroups often underserved include Hispanic/Latino populations, minority groups and low-income neighborhoods.

A survey provided insight into Greeley/Evans youth and adult perceptions and behaviors regarding interactions with nature and the outdoors; opinions regarding barriers to spending more time in nature; and, thoughts on future changes that could help encourage or facilitate enhanced experiences in the outdoors and natural settings within the community and beyond. Barriers and opportunities to engaging youth and families in the outdoors

inspire initiative.

DREAM BIG. REFIN
IDEAS. EMPOWER.
PARTNER.



IMPLEMENTATION INITIATIVE

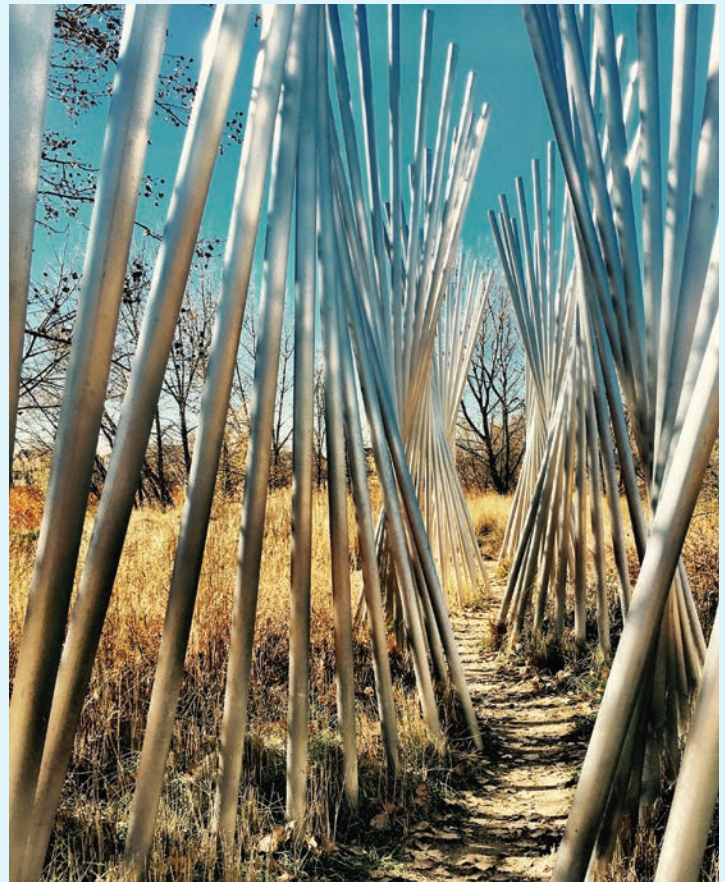
DETAILED PLANS.
CONSTRUCTION.
NEW OPPORTUNITIES.
PLAY.
EVALUATE.

throughout Greeley and the surrounding area were also identified.

An inventory of opportunities to connect youth and their families to nature in the City of Greeley was conducted during this initial information collection. Opportunities included outdoor spaces such as parks, open lands, school yards, nature centers, outdoor recreation areas and city-owned stormwater management areas. This inventory also identified youth centers such as preschools and Boys and Girls Clubs. Responses to the community survey guided an assessment of opportunities to experience nature in existing parks and natural areas within the city of Greeley.

UNDERSTAND NEEDS.

An assessment of parks and natural areas focused on the presence of, or need for, the qualities residents seek in desirable nature and outdoor experiences, as indicated from their survey responses. These qualities were translated into



The assessment of park and natural areas using the Nature Score Matrix identified places containing the qualities residents seek in natural experiences, such as **Gateway Lakes Natural Area**. City-wide distribution of quality natural experiences was also examined and areas without access to natural experiences within walking distance, described as 'Nature Disadvantaged Areas,' were identified.

the Nature Score Matrix, developed uniquely for Greeley. Using the matrix, parks and natural areas were assessed for the number of desirable qualities each contained. The greater number of desirable qualities present, the higher the Nature Score. More details on the assessment of parks and natural areas can be found in the supplemental Analysis Report.

IDENTIFY OPPORTUNITIES.

Through the inventory and assessment process, the distribution of quality nature experiences and the inverse, 'nature disadvantaged areas,' were identified. Further research into the socio-economic makeup of Greeley and it's 'Nature Disadvantaged Areas' was conducted to understand the populations that do not currently have access to quality natural experiences within walking distance. This examination helped the coalition determine where improvements to Greeley's natural experience are most needed and gauge the impact of improvements.

STEP 2

LISTENING SESSIONS

A series of listening sessions further refined insight into Greeley/ Evans youth and adult perspectives and behaviors identified in the community survey. In these listening sessions, youth and adult participants were invited to provide feedback and explore ideas for improvements to Greeley's natural experience. Discussions among adult participants focused on barriers to spending more time in nature and future changes that could help encourage or facilitate enhanced experiences in the outdoors and natural settings within the community and beyond. Discussions in the classrooms with youth focused on how much time they are spending outside, what they enjoy doing and the physical elements or programs that would get them excited to get outdoors.

IDEA GENERATION

The consultant team in collaboration with Cache la Poudre Coalition hosted classroom listening sessions within the focus neighborhood and the greater Greeley area to generate youth-driven ideas to improve places, programs and pathways. The ideas generated centered on increasing awareness of opportunities to improving accessibility of outdoor experiences and programming, enhancing local natural areas and parks using the qualities that residents of Greeley desire in nature and, most importantly, reflected the youth voice.

STEP 3

DEVELOP CONCEPTS

Places

Utilizing the understanding of Greeley's greatest opportunities to inspire youth and their families to get outdoors in addition to identifying neighborhoods with limited access to nature, a focus area was identified. The selected focus area met a number of criteria including being a 'Nature Disadvantaged Area' and having

The publicly available, online survey was widely advertised from **May 12 through July 29, 2016**. The survey was designed with two separate sets of questions to gather responses from both youth and young adults ages 7 to 25 and adults 25 and over with targeted questions aimed at each demographic.



adult

491 adults
completed the
survey



youth

487 youth
completed the
survey

Approximately **200 youth** from schools and youth centers across Greeley participated in the listening sessions, ranging in age from fourth grade through high school. Participation in the listening sessions by parents, educators, program providers and professionals totaled approximately **40 adults**. Youth participation informed the development of the mobile nature experience and improvements to the East Memorial neighborhood. Adult feedback focused on the educators, partners and career pathways to enhance Greeley's culture of outdoor experiences.



adult

40 Parents,
educators,
program providers
and professionals
participated in the
listening sessions



youth

200 youth
participated in the
listening sessions
and design reviews

a high concentration of residents and students that have economic and social demographic characteristics indicating they likely face greater challenges to spending time in nature. From there, design interventions to enhance the natural experience were conceptualized using neighborhood youth perspective. The resulting conceptual plans for improvements to place represent a community-driven planning process.

Programs and Pathways

In response to feedback from the community survey and program providers listening sessions, concepts for programs were developed to help reduce youth transportation barriers and lack of knowledge of what to do in nature, and address their desire for programming that youth can participate in with their friends and family close to home. The intention of each program or pathway recommended is to serve youth and families from diverse backgrounds, encourage a progression of unique experiences to draw youth of all ages and abilities, instill a sense of environmental stewardship and expose the next generations to career pathways. The suite of programs developed increase awareness of Greeley's nature experiences, offer nature and outdoor experiences to underserved youth and address accessibility barriers within many Greeley/Evans neighborhoods. Additionally, the supported internships increase exposure to career pathways in the fields related to the outdoors.

IDENTIFY IMPLEMENTATION STEPS AND RESOURCES

The first step in implementing the youth and community directed improvements for places, programs and pathways is the 2017 submission of the implementation grant application to support up to \$3 million in funds. The grant application includes a conceptual estimate of cost for all proposed improvements, a schedule for construction of improvements to place and three-year strategies to enhance programs and pathways. Additional resources critical to the implementation of the Get Outdoors Greeley Initiative include: The City of Greeley's Rodarte Community Center, the City's Youth Commission, Jerry Pawl Boys & Girls Club, Sky Corral Ranch and the Colorado Youth Outdoors, the Poudre Learning Center. These resources will also play a significant role in ensuring an ongoing youth voice throughout implementation.

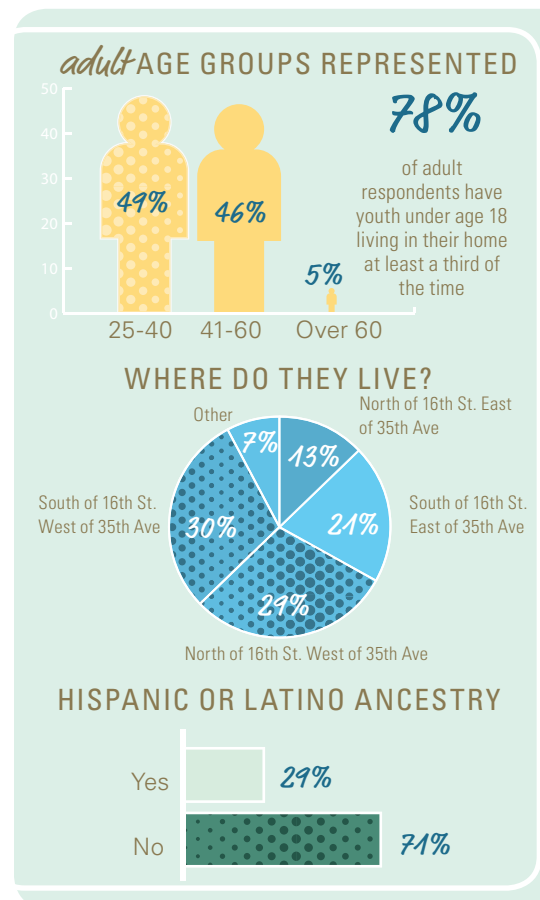
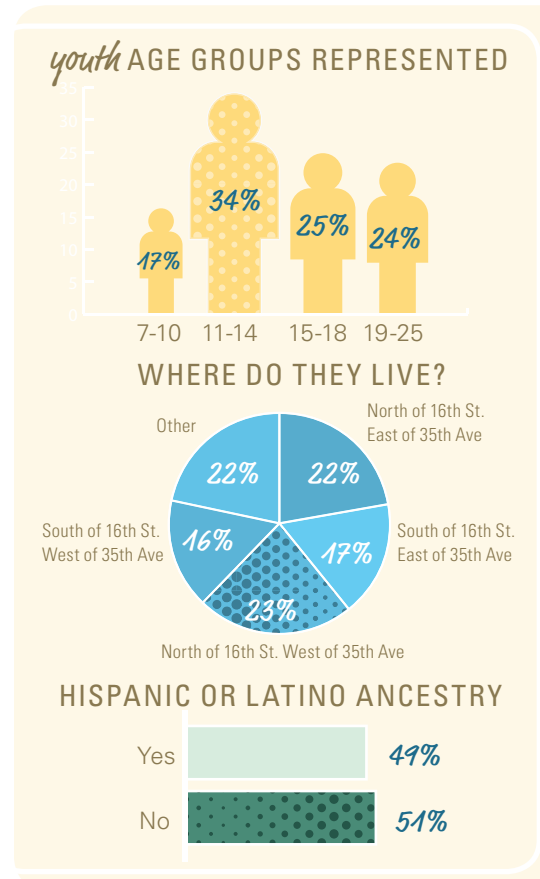
COMMUNITY AND YOUTH ENGAGEMENT

COMMUNITY SURVEY

A publicly available, online survey was widely advertised from May 12 through July 29, 2016. The survey was designed with two separate sets of questions to gather responses from both youth and young adults ages 7 to 25 and adults 25 and over with targeted questions aimed at each demographic. The Youth Task Force contributed to survey advertisement and outreach efforts by handing out fliers and encouraging people to take surveys on tablets. The survey was made available on the PlayGreeley.com website and advertised through the following outreach channels:

- Announced at Youth Net events (coalition of youth and family service providers)

COMMUNITY SURVEY



- Fliers sent home with students in Greeley Evens School District 6
- Youth Task Force Facebook page
- Fliers to local youth organizations
- Fliers and handouts at the City of Greeley recreation and public facilities
- Events such as:
 - *Fitness Expos*
 - *Family Bike Rides*
 - *First Fridays*
 - *Neighborhood Nights*
 - *Centennial Swimming Pool open swim events*

LISTENING SESSIONS & YOUTH DESIGN REVIEWS

Community listening sessions and youth design reviews were held across the city and in the East Memorial neighborhood the first week of November, 2016 and again in late March 2017. Efforts were made to coordinate sessions with youth and their families, educators, program providers and professionals in the fields of outdoor recreation and natural resources. Desired outcomes for the meetings included:

- Understand how program providers might best support the use of Mobile Nature Experiences and utilize them to encourage youth connections to the outdoors
- Identify youth desired ideas for physical changes to the East Memorial Natural Area that would improve connections to nature
- Understand the current use of East Memorial Park and what might be lacking to attract youth and families to enjoying the outdoors in this space.

November 2nd

Franklin Middle School Design Review Sixth-graders at Franklin Middle School participated in activities designed to understand activity levels, gauge support and solicit ideas for mobile nature experiences. Class participation totaled approximately **45 students**.

Bella Romero Academy Design Review Fifth-graders at Bella Romero Academy participated in activities designed to understand their current engagement with nature and solicit inspiration for improvements to the East Memorial neighborhood and school grounds. A classroom of **25 students** participated.

Educators Focus Group School District 6 educators and administrators were invited to join a facilitated discussion to collect ideas and input on how the City might better encourage youth to connect to nature and the potential for partnerships between the schools and the city's park system.

November 3rd

Partners Focus Group Program providers were invited to join a facilitated discussion to review the details of a mobile nature experience and understand how program providers might best support and utilize the Nature Mobile.

East Memorial Boys and Girls Club Design Review Youth living in the East Memorial neighborhood participated in activities designed to understand activity levels and solicit inspiration for improvements to the East Memorial neighborhood nature experience. Approximately **30 youth** ages 7-13 participated.

General Public Meeting East Memorial residents were invited to join an open house to review opportunities to connect youth to nature in their neighborhood and solicit inspiration for improvements to the East Memorial neighborhood nature experience.

November 4th

Career Pathways Focus Group Program providers and professionals were invited to join a facilitated discussion to understand needs and deficiencies in Greeley area in nature based career pathways and discover opportunities to enhance career pathways through the GOCO Implementation Grant.

Northridge Club Design Review Highschoolers at Northridge High School participated in two activities designed to gauge support and solicit ideas for mobile nature experiences. One club participated, totaling approximately **40 students**.

March 22nd

Jerry Pawl Boys and Girls Club Design Review A total of approximately **60 youth** rotated through stations designed to solicit ideas for garden play areas, pollinator gardens, celebration spaces.

- Identify ideas for physical changes to East Memorial Park and Bella Romero School Yard that would encourage youth to spend more time in nature.
- Determine how best to empower youth to be part of the implementation steps.
- Understand how the GOCO Grant could be utilized to inspire career pathways for youth to natural resources jobs.



MOMENTUM

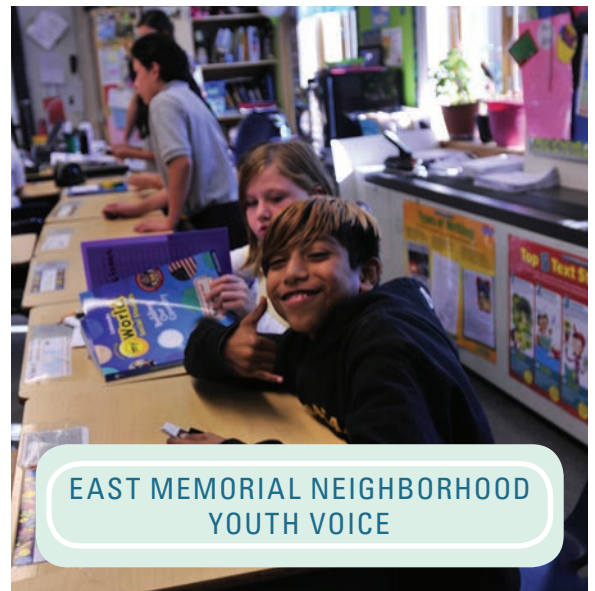
The Great Outdoors Colorado (GOCO) Inspire Initiative planning grant awarded to the Cache la Poudre Coalition has supported efforts to encourage Greeley residents to get outdoors and discover their outdoor “diamond in their own back yard”. Through this planning process, the Coalition forged new partnerships and solidified existing ones to advance outdoor opportunities. This initiative has facilitated the collaboration of six area agencies: Culture, Parks and Recreation Department; members of the Boys and Girls Club of Weld County Greeley; School District 6 schools; Bella Romero Kindergarten to Third Grade and Fourth through Eighth grade campuses; Rodarte Community Center; and charter school, Salida del Sol. The process also allowed the Coalition to hear and learn from a wide cross-section of the community.

The outcomes of this Initiative will not only inspire youth to get outdoors through improved outdoor experiences in the east Greeley community and a suite of programs, but will also influence awareness of the City’s outdoor offerings, improve accessibility of natural experiences, and strive to ensure the community’s increasingly diverse population is served. Improved connections between youth and the outdoors have the potential to provide life changing experiences. The selection of improvements and enhancements to places, programs and pathways contained in this Planning Report will be included in the implementation phase to help the community achieve its vision for the future of youth and family engagement with the outdoors. The existing parks, natural areas and programs in the Greeley area and the selected improvements make this community a perfect fit for engaging youth in the great outdoors.

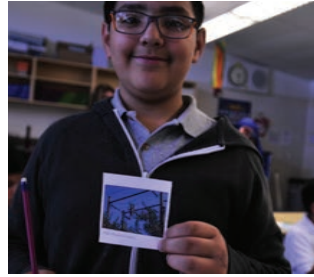
HIGHLIGHTS AND CHALLENGES

Highlights of the planning process include the large number of youth that participated in determining barriers to getting youth and families engaged in nature and developing solutions to barriers. Their energy and enthusiasm for future outdoor opportunities that will result from this initiative was a great influence in the planning process. Another highlight was the relationships that were forged between the Cache la Poudre Coalition and the community partners that will be supporting the initiative. These relationships will be an incredible asset in the future sustainability of the initiative.

Challenges faced in the planning process included difficulties in reaching the adult residents that live in the east Greeley community. While engagement with the youth from the east Greeley neighborhood was made possible through the collaboration with the youth-serving organizations in the area, establishing communication with the parents was more challenging. Communication with a trusted person or organization had not been established in east Greeley, and the area also lacks a quality community gathering place. Greeley has recently hired a community engagement specialist specifically employed to reach out to and engage Hispanic residents. This resource will be helpful in establishing ongoing engagement with east Greeley residents during the design and implementation phases of the Get Outdoors Colorado grant initiatives.



EAST MEMORIAL NEIGHBORHOOD
YOUTH VOICE



People

COMMUNITY

- Community Values and Attitudes Toward Nature and the Outdoors
- City-Wide Outdoor Experiences
- Priority Improvements to the Natural Experience
- Socio-Economic Indicators

HUBS

- Coordinating Hubs and Entities
- Hub Selection

INSPIRE INITIATIVE IMPACTS

- Places
- Programs
- Pathways



COMMUNITY

The City of Greeley is one of Colorado’s northernmost cities on the Front Range, located an hour north of Denver and 30 minutes from the foothills of the Rocky Mountains. Greeley and its Long Range Growth Boundary totals approximately 48 square miles and lies in the heart of the Colorado Great Plains, near the confluence of the South Platte and Cache la Poudre Rivers. Long distance views with peaks of the Front Range supplement the community’s natural landscape, which has been influenced by agricultural land patterns.

COMMUNITY VALUES AND ATTITUDES TOWARD NATURE AND THE OUTDOORS

The findings from the literature review, community survey and listening sessions provide useful insight and information important in describing the Greeley community.

Opportunities to experience nature are important to the youth and adults of the Greeley area. The majority of youth respondents (77%) report nature in the community is important or very important to them. Even greater numbers of adult respondents (92%) agree that nature in the community is important or very important. Personal experiences in nature play a significant role in appreciation of the outdoors. Overwhelmingly, both youth respondents (68%) and adult respondents (81%) agree or strongly agree that they have had a personal experience in nature that made them appreciate it more.

INSPIRATION TO GET OUTDOORS.

Over 82% of youth agree or strongly agree that they would like to spend more time in nature than they currently do. Adult respondents reported in high numbers (85%) that they would like to see their children spending more time outdoors. Most adult respondents (91%) see parents and caregivers as the biggest influencer in getting children to spend more time in nature. Fewer than half of the youth, on the other hand, feel parents and caregivers are the most influential. Rather, their inspiration to get outdoors comes from their friends and peers.

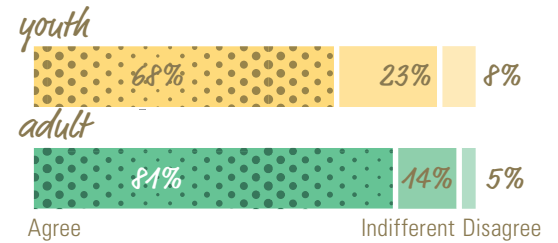
TIME SPENT OUTDOORS.

A total of 60% of Greeley area youth reported spending two or more hours outdoors on a typical weekday and 68% indicated two or more hours on a typical weekend day. Conducting the survey in the Spring/Summer may have influenced this high rate of time spent outdoors. The percentage of time Greeley youth spend outdoors is slightly lower than reported in a national survey¹ in which 61% of youth ages 6-19 indicated spending two or more hours outdoors on a typical weekday and 77% spent this amount of time outdoors on a typical weekend day. This national survey showed half of youth spent four or more hours outdoors on a typical weekend day compared to 31% of Greeley youth. A similar percentage of youth from this national survey report spending less than an hour outside on a weekday (16%) as Greeley youth (15%).

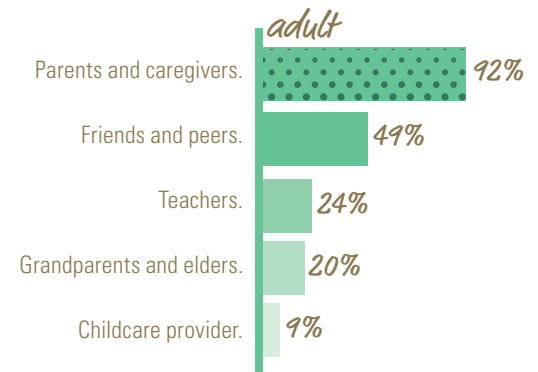
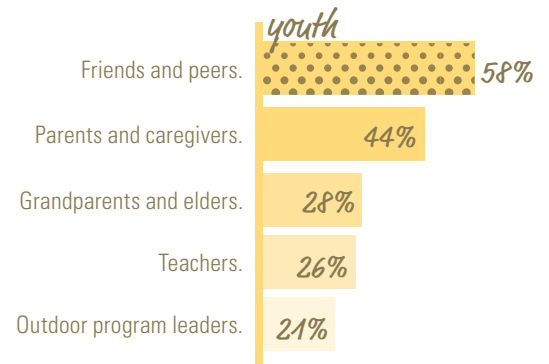
85%

of adult respondents agree or strongly agree that they would like their children to spend more time outside

I HAVE HAD A PERSONAL EXPERIENCE IN NATURE THAT MADE ME APPRECIATE IT MORE



TOP 5 PEOPLE INSPIRING YOUTH TO GET OUTDOORS



1| National Survey on Recreation and Environment (NSRE) National Kids Survey: How Much Time Do Kids Spend Outdoors? Athens Forest Service Research Group. 2007 - 2009 phone survey of 1,200 youth.

A closer look at the amount of hours age groups of youth are spending outdoors reveals all respondents under age 25 are generally spending the same amount of time outdoors in a typical week. The age group that reports spending the least amount of time outdoors is between the ages of 7 to 10 years of age. Youth respondents identifying as having Hispanic or Latino ancestry spend similar amounts of time outside on the weekends and weekday as non-Hispanic respondents.

LEVEL OF COMFORT IN THE OUTDOORS.

Slightly less than 10% of adults reported feeling uncomfortable in nature because they do not see other people who share their culture when spending time outdoors. A higher percentage of youth (19%) reported discomfort spending time in nature because they do not see others of their culture. Youth respondents reporting a strong level of discomfort were split fairly equally between Hispanics (46%) and non-Hispanics (54%). The majority of adults (71%) that reported discomfort are Hispanic/Latino.

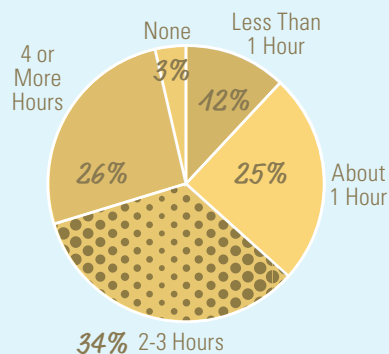
CITY-WIDE OUTDOOR EXPERIENCES

Youth and families engage with nature or playing outside most in local parks, closely followed by their own backyards. Less common environments to spend time in nature are neighborhood natural areas, school yards, volunteer outdoor projects, nature programs/classes and gardens or farms/ranches. Just over 8% of youth, or their parents indicated members of their households, do not spend much time in nature.

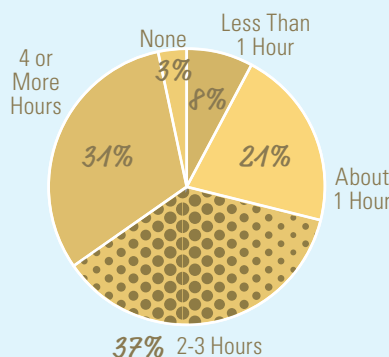
Distributed throughout the city’s developed area are 41 parks and 13 natural areas, amounting to 7% of Greeley’s total area. About 40% of youth and their families are satisfied with existing opportunities to get outdoors. However, more than one-third of youth and 28% of their parents are less than satisfied with the places available in their community to enjoy nature. Map 1, on the following page, shows the distribution of city-wide outdoor public spaces.

Getting outdoors with family and friends in safe environments is important. The vast majority of both youth (78%) and adults (84%) value the time they get to spend with their family when visiting natural places. Youth (78%) and most adults (71%) also cite safety as a top issue of importance when visiting natural places. A city-wide survey conducted for the City of Greeley Parks, Trails and Open Lands Master Plan in 2015 indicated an overall high level of satisfaction with the level of safety in parks and facilities. Only 13% of respondents were dissatisfied or highly dissatisfied with the level of safety, with 12% very satisfied and 47% moderately satisfied.

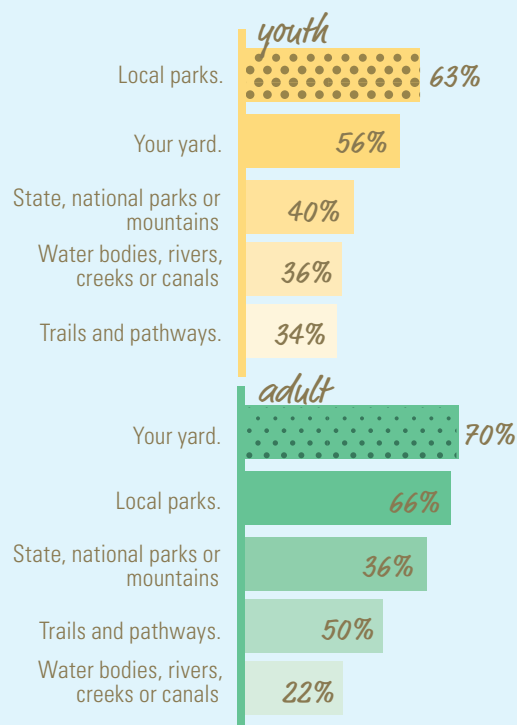
AMOUNT OF TIME YOUTH ARE SPENDING OUTDOORS (NOT SPORTS ACTIVITIES) ON A TYPICAL WEEKDAY



AMOUNT OF TIME YOUTH ARE SPENDING OUTDOORS (NOT SPORTS ACTIVITIES) ON A TYPICAL WEEKEND DAY



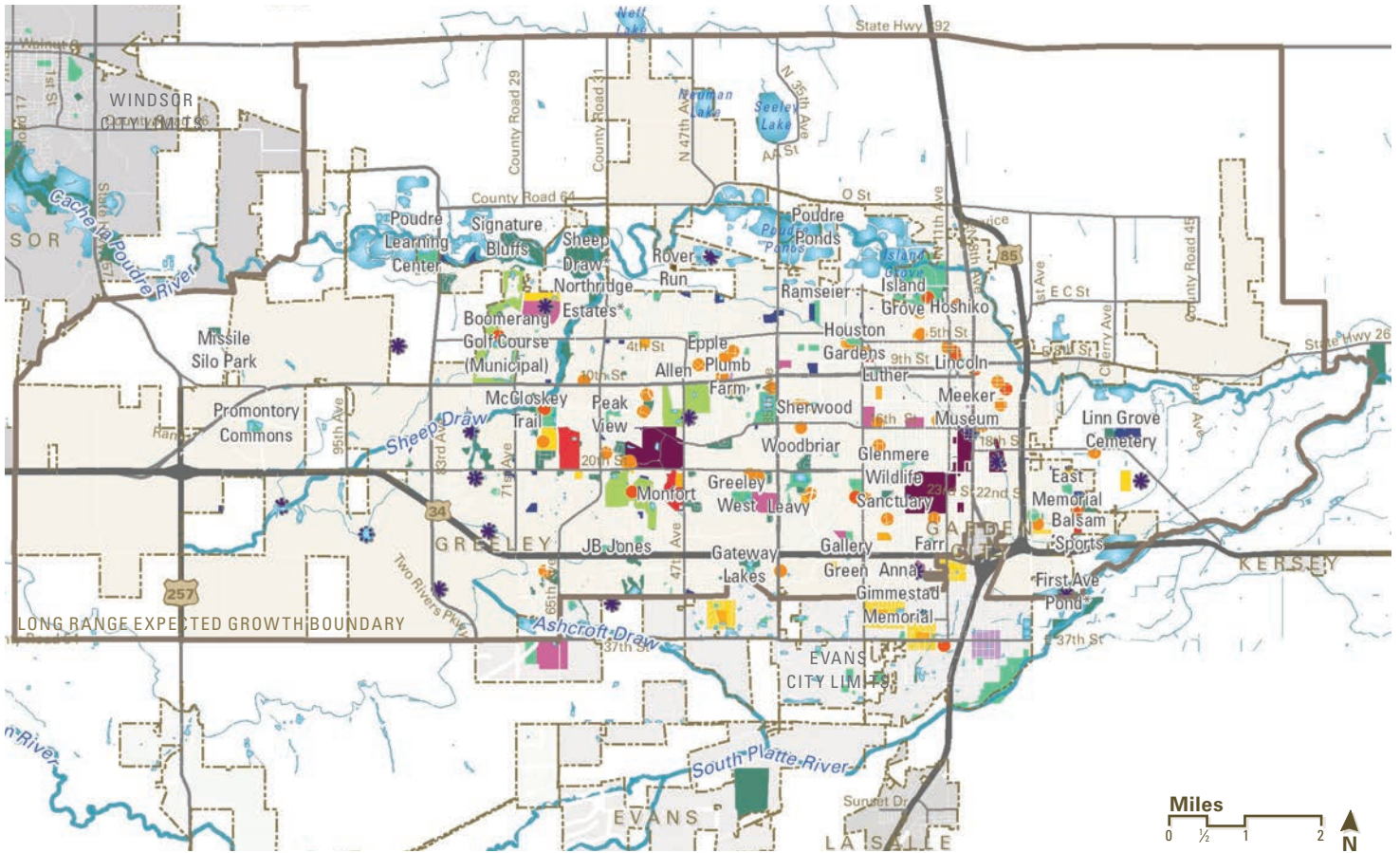
TOP 5 PLACES YOUTH AND MEMBERS OF THEIR HOUSEHOLD EXPERIENCE NATURE



* Other options included: neighborhood natural areas, school yards, volunteer outdoor projects, nature programs or classes and gardens or farms.

MAP 1

CITY-WIDE OUTDOOR PUBLIC SPACES



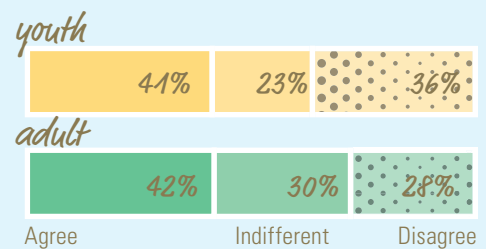
- Elementary School
- K-8th or 12th Grade
- Middle/High School
- College/University
- Preschool or Childcare Facility
- Recreation Centers
- Boys and Girls Club
- Park
- Natural Area
- Sports Complex
- Dog Park
- Golf Course
- Museum/Library/Cultural Center
- Potential Park Location (2016 Parks, Trails and Open Lands Plan)
- HOA Natural Landscape
- HOA Parks and Recreation Property
- Greeley Stormwater Property

WHAT IS IMPORTANT TO YOU AND/OR MEMBERS OF YOUR HOUSEHOLD IN VISITING A NATURAL PLACE?

** Other options included: discovering new things, a place to play without rules and a place to get exercise.*



I AM SATISFIED WITH THE PLACES AVAILABLE IN THE COMMUNITY TO ENJOY NATURE



BARRIERS TO EXPERIENCING NATURE

The number one reason preventing surveyed youth from spending more time in nature comes down to the common challenge that they don't know where to go.

Similarly high numbers of youth respondents also cite busy schedules and not enough places that interest them nearby as reasons preventing them from getting outdoors.

The top reason adults feel youth are not spending more time in nature is that youth do not have a way to get there. Busy youth schedules was not identified by adults as one of the top reasons youth are not getting outdoors more. Instead, 38% of adult respondents felt youth are just not interested in spending time in nature. Only 4% of the youth respondents reported a lack of interest in spending time in nature, indicating that adults may have some misconceptions about youth motivations to get outdoors. It may be that youth perceive a sense of busyness differently than adults.

Some youth (19%) and adults (16%) feel costs of programs and equipment necessary to get outdoors is too high. Of these adults, 37% reported an annual income of less than \$50,000 and 40% identified as Hispanic or Latino.

QUALITY NATURAL EXPERIENCES

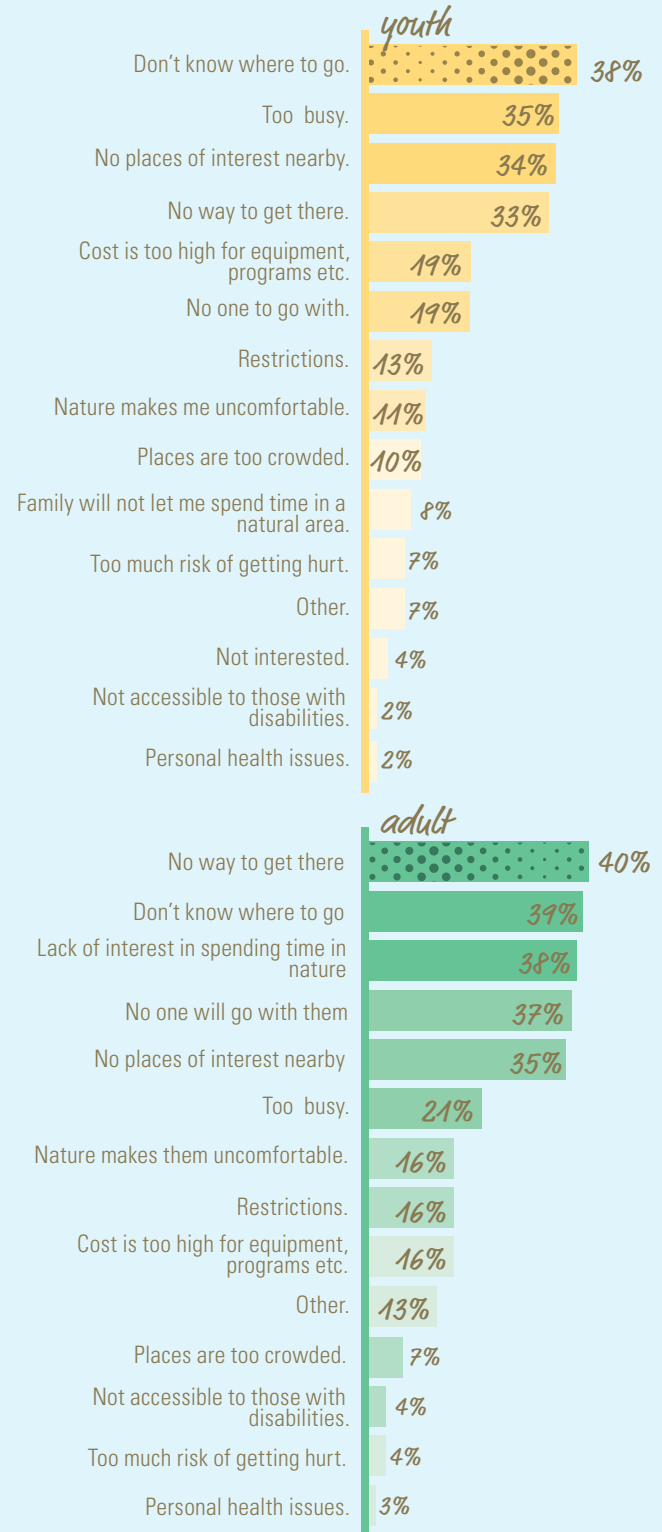
From the mountains to the plains, residents of Greeley and Evans enjoy an abundance of outdoor activities and opportunities to spend time in nature. Results show youth and adult preferences for activities and opportunities to get outside reflect Coloradans' outdoor lifestyle. Among the top 10 opportunities and activities both youth and adults would like to do in nature, or would do if offered, include exploring, camping, hiking, fishing and various activities that residents can take from their backyard to the backcountry, like trail running and rock climbing.

DESIRED IMPROVEMENTS

Trail recreation encourages many residents to spend time in nature. More than half of youth (62%) and adults (56%) think surrounding trails with opportunities to connect to nature would encourage them to spend more time in nature. Connectivity of trails to parks and natural areas in the community is also an important improvement needed to encourage youth and adults alike to spend more time outside. Most adult respondents (76%) agree that connectivity of trails to park and natural area is a top priority for improvement.

Other improvements residents feel are important to getting youth and members of their households to

BARRIERS TO GETTING OUTDOORS



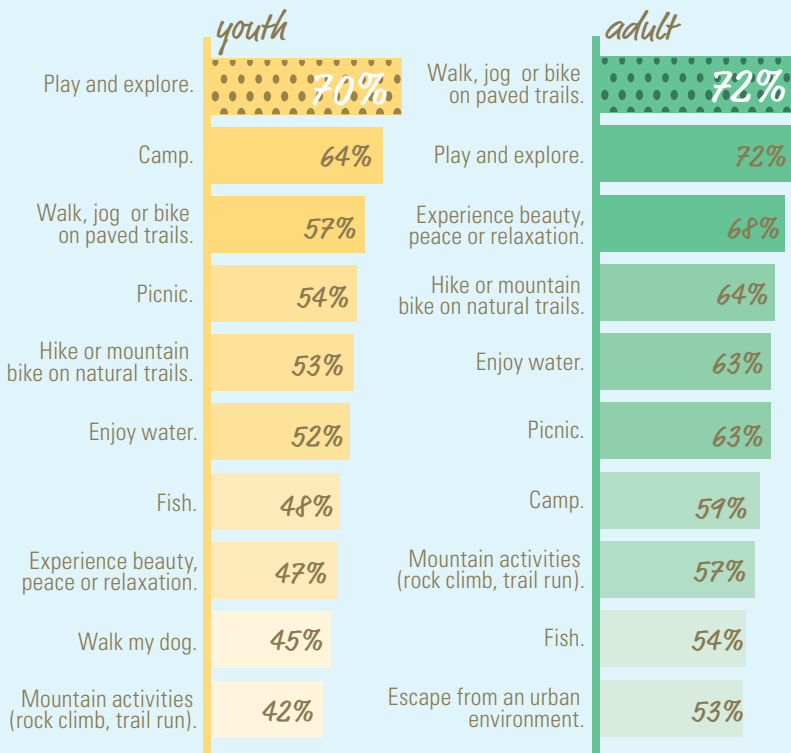
16% OF ADULTS FEEL COSTS ARE TOO HIGH. WHO ARE THEY?

37% earn \$50,000 or less

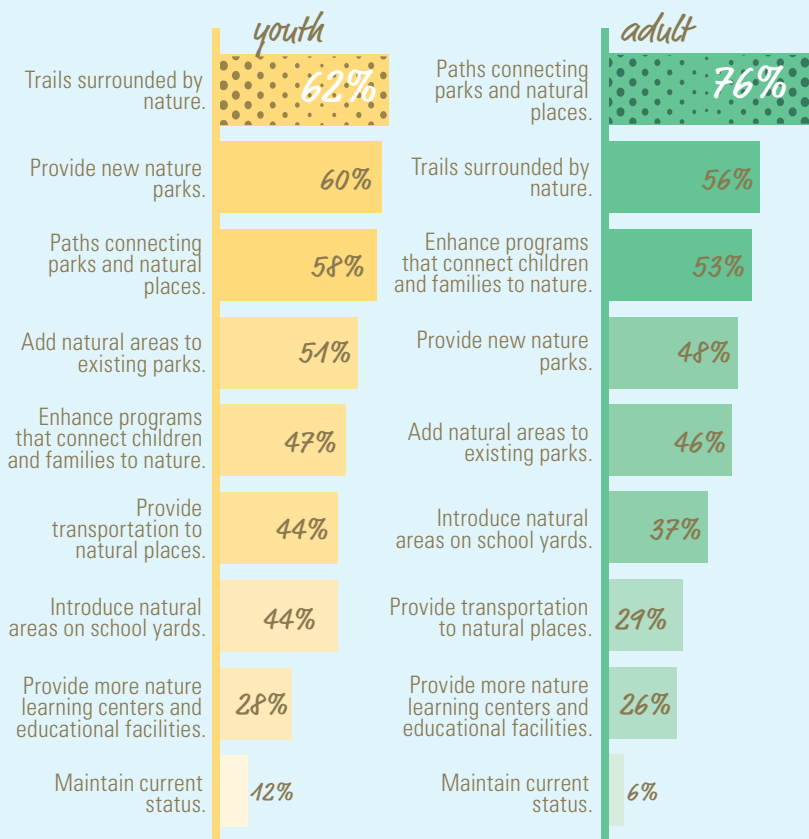
12% earn more than \$100,000

40% identify as Hispanic or Latino

TOP 10 OPPORTUNITIES AND ACTIVITIES ADULTS AND YOUTH IN THEIR HOUSEHOLD WOULD LIKE TO DO IN NATURE



WHAT IMPROVEMENTS ARE NEEDED TO ENCOURAGE YOU AND/OR YOUR HOUSEHOLD TO SPEND TIME IN NATURE?



spend more time in nature include new nature parks (60%) and adding natural areas to existing parks (51%). Additionally, 53% of adults and 47% of youth felt that enhancing programs that connect children and families to nature is needed.

Themes that emerged from asking youth to provide their ideas for improvements included:

- More events, outdoor activities and advertisement of these opportunities
- More greenery, trees, shade and inviting nature appearance
- Nature trails, trails for people to get to parks and better transportation
- Cleaning up parks and making them safer
- More (unstructured) play areas and improved playgrounds
- Access to water for recreation and fountains/interactive water features
- Introduction of more nature in existing parks, downtown and places closer to home and school.

Common areas selected by youth for improvements to natural areas include:

- Areas around Bittersweet park
- Areas to the south of Poudre Ponds
- Neighborhoods to the east of 14th Avenue, South of Lincoln Park north of Greeley Central High School
- Neighborhoods surrounding University of Northern Colorado.
- Island Grove Park
- East Memorial Park

Adults responses were focused more on the western portion of the city. Areas most commonly selected by adults were:

- Surrounding Twin Rivers Park
- North of McAuliffe Elementary School
- Along the Poudre River Trail.
- Downtown
- Bittersweet Park
- Gateway Lakes Park

PRIORITY IMPROVEMENTS TO NATURE EXPERIENCES

The Inspire Initiative aims to influence Coloradans, particularly kids, to appreciate, enjoy and take care of the great outdoors, while recognizing there is no one-size approach to serve the diverse communities within the State. The approach of the planning effort to identify priorities for the natural experience within the Cache la Poudre Region was guided by the Greeley community's behaviors, interests and desires. The community survey identified where youth and their families are getting outdoors in Greeley and how much time youth are spending outdoors. It also shed light on adults and youth that have had meaningful connections with nature.

Overwhelmingly, adults in Greeley would like to see their children spend more time outdoors. According to analyses conducted in Greeley's 2016 Parks, Trails and Open Lands Master Plan, 59% of households are within a 10-minute walk, or one-half mile, of a park or publicly accessible natural area. Despite accessibility, youth indicated that their top three reason preventing them from getting outdoors were lack of awareness of where to go, they're too busy with other activities and there are just no places of interest nearby.

DISTRIBUTION OF NATURAL EXPERIENCES

Through the survey, youth and adults indicated the opportunities and activities they seek outdoors and the improvements that would encourage them to spend more time outdoors. This provided a place-based understanding of the qualities residents seek in natural experiences. These qualities that motivate Greeley's youth and their families to get outdoors were translated into the Nature Score assessment, a matrix used to uniformly assess parks and natural areas in Greeley for their desirable qualities.

The number of qualities Greeley's regional, community and neighborhood parks as well as publicly accessible natural areas contains determines that park or natural area's Nature Score. A total of 9 out of 45 assessed parks and natural areas within Greeley obtained an 'A' Nature Score. Of the remaining parks and natural areas, 9 obtained a 'B' Nature Score and 25 received a 'C' Nature Score. The assessment of each park and natural area can be found beginning in Map 2, on the following page.

City-wide, approximately 82,000 residents, or **75% of households, are located outside of walking distance to a quality park or natural area** with a Nature Score of 'A' or 'B'. The distribution of quality parks and natural areas and walking distances are identified in Map 2.



'A' NATURAL AREA

HOMESTEAD PARK + GATEWAY LAKES
NATURAL AREA



'C' NATURAL AREA

EAST MEMORIAL NATURAL AREA



'A' PARK

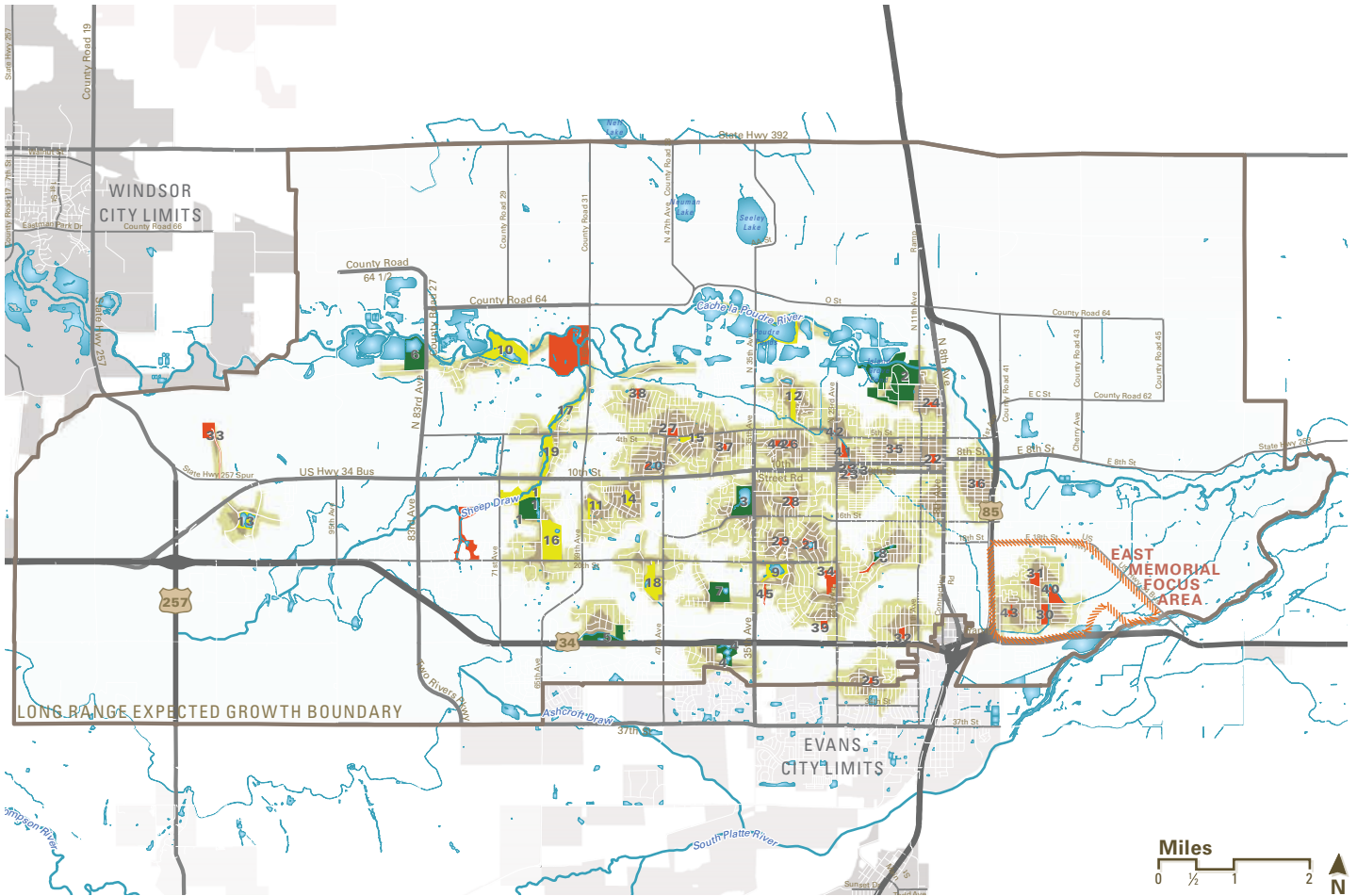
GLENMERE PARK



'C' PARK

COYOTE RUN PARK

MAP 2 NATURE EXPERIENCE ASSESSMENT






NATURE DISADVANTAGED AREAS

Areas with limited access to quality nature places are described as 'Nature Disadvantaged.' A 'Nature Disadvantaged Area' does not have access to a park or natural area with a Nature Score of 'A' or 'B' within one-half mile. The greatest need for improvements to the natural experience are neighborhood in the 'Nature Disadvantaged Areas' that contain more than 2,000 households. Priority 'Nature Disadvantaged Areas' are concentrated in the central neighborhoods of Greeley, between 59th Avenue to the west and Highway 85 to the east, with the exception of the East Memorial neighborhood located just east of Highway 85. Several locations meeting the 'Nature Disadvantaged' and household criteria were explored for improvements to the natural experience. Selection criteria including socio-economic indicators (described on the following page), survey and stakeholder input and project feasibility resulted in the focus area selection of East Memorial neighborhood.



QUALITY OF PARKS AND NATURAL AREAS

The **number** indicated next to each park or natural area represents its overall Nature Score Rank

-  'A' Park or Natural Area With a Nature Score **Greater than 15**
-  'B' Park or Natural Area With a Nature Score **Between 10 to 15**
-  'C' Park or Natural Area With a Nature Score **Less than 10**

PARK AND NATURAL AREA WALKING DISTANCE

2016 PTOL Master Plan Analysis

-  10-minute Walk
-  5-minute Walk

SOCIO-ECONOMIC INDICATORS

Greeley residents represent diverse backgrounds, ranging from traditionally rural lifestyles, to students and professors at the University of Northern Colorado to, emerging neighborhoods rich in Hispanic culture. Of the City's approximately 104,000 residents, nearly 25% are under 18. Over one-third identify as Hispanic, with only a small percentage (4%) reporting they are not proficient in English. The median household income for Greeley is approximately \$49,000, which is significantly lower than the State of Colorado median of approximately \$61,000. In addition to lower incomes, low education attainment levels in the Greeley community add to socio-economic risk factors in the area. Greeley residents over the age of 25 have a level of educational attainment that is significantly lower than Colorado as a whole. About 16% of City residents do not have a high school diploma, nearly double the percentage of the State, which is around 9%. Only 26.4% of Greeley's residents have earned a four-year college degree or higher as compared to rates for college attainment in the State, 38.7% respectively.

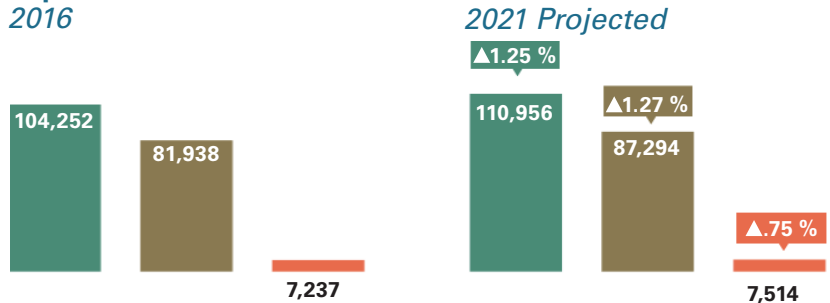
Generally, areas in Greeley that do not have access to quality natural areas within walking distance tend to exhibit concentrated socio-economic risk factors than the City at large. A total of 82,000 Greeley residents, or 29,000 household units, are located in Nature Disadvantaged Areas - those areas outside of walking distance to a quality park or natural area. Most neighborhoods in both Greeley (65%) and it's 'Nature Disadvantaged Area' (61.4%) are made up largely of single family homes. However, Greeley's 'Nature Disadvantaged Areas' contain a higher percentage of households with incomes below the poverty level and lower incomes than the greater Greeley area (Defined as Greeley's Long Range Expected Growth Boundary). Nature Disadvantaged Areas also have slightly higher populations of residents identifying as Hispanic.

All of these **socio-economic indicators are magnified in the East Memorial neighborhood focus area.**

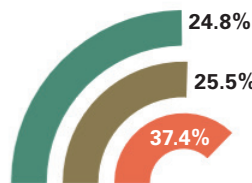
Socio-Economic Indicators

- City of Greeley (Long Range Exepected Growth Boundary)
- Nature Disadvantaged Area
- Focus Area: East Memorial Neighborhood

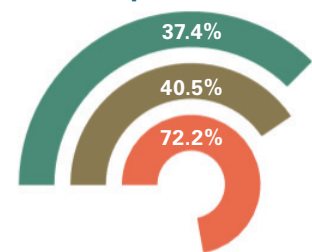
Population 2016



Total Population UNDER 18

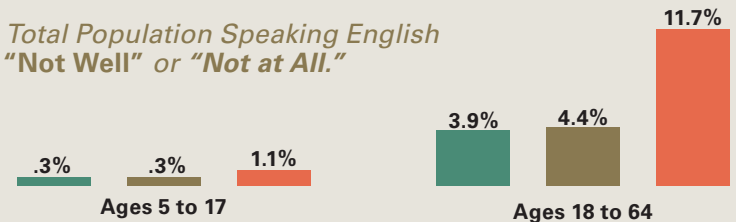


Hispanic Population

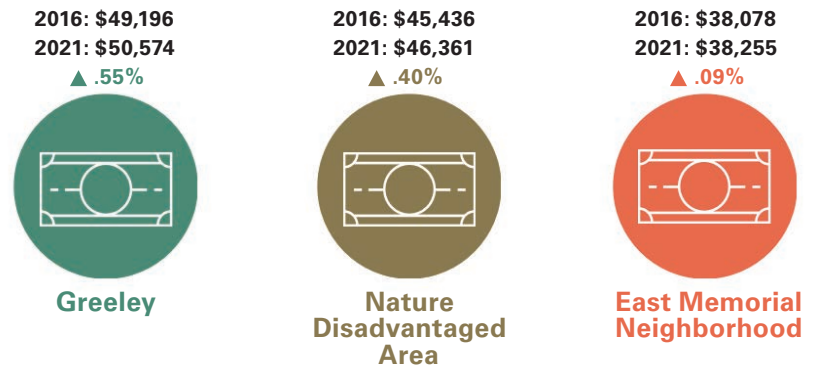


English Proficiency

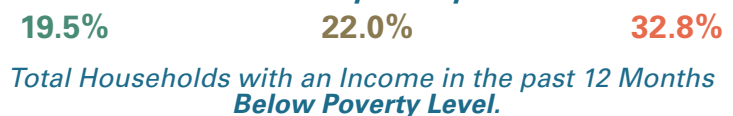
Total Population Speaking English "Not Well" or "Not at All."



Median Household Income



Households by Poverty Status



Source: ESRI Business Analyst 2016

EAST MEMORIAL FOCUS AREA

The East Memorial neighborhood lies in east Greeley, loosely defined as the area east of US Highway 85 and north of US Highway 34. While much of east Greeley is rural in character, the East Memorial neighborhood is more densely populated. The Focus Area contains approximately 7,200 residents, of which 37% are under 18. This neighborhood has a higher percentage of youth than the greater Greeley area and the cumulative area identified as 'Nature Disadvantaged.' The average household size is also considerably larger (3.67 people) than the greater Greeley area (2.66 people).

Historically the east Greeley area has been home to immigrant populations and Hispanic cultural traditions are strong in the area. Dominating this neighborhood are younger families with children or single-parent households with multiple generations under one roof. The focus area is made up of more than 70% of residents identifying as Hispanic. Only 1% of youth ages 5 to 17 do not speak English well or at all. This percentage is higher for adult residents, with 11% reporting to the census that they do not speak English well or at all.

TABLE 1

FOCUS AREA SELECTION CRITERIA

Socio-Economic Factors

- The focus area serves a large and diverse population.
- The focus area serves a neighborhood with a high concentration youth.
- The focus area serves households with lower income levels or households with an income below poverty level.

Survey & Stakeholder Input

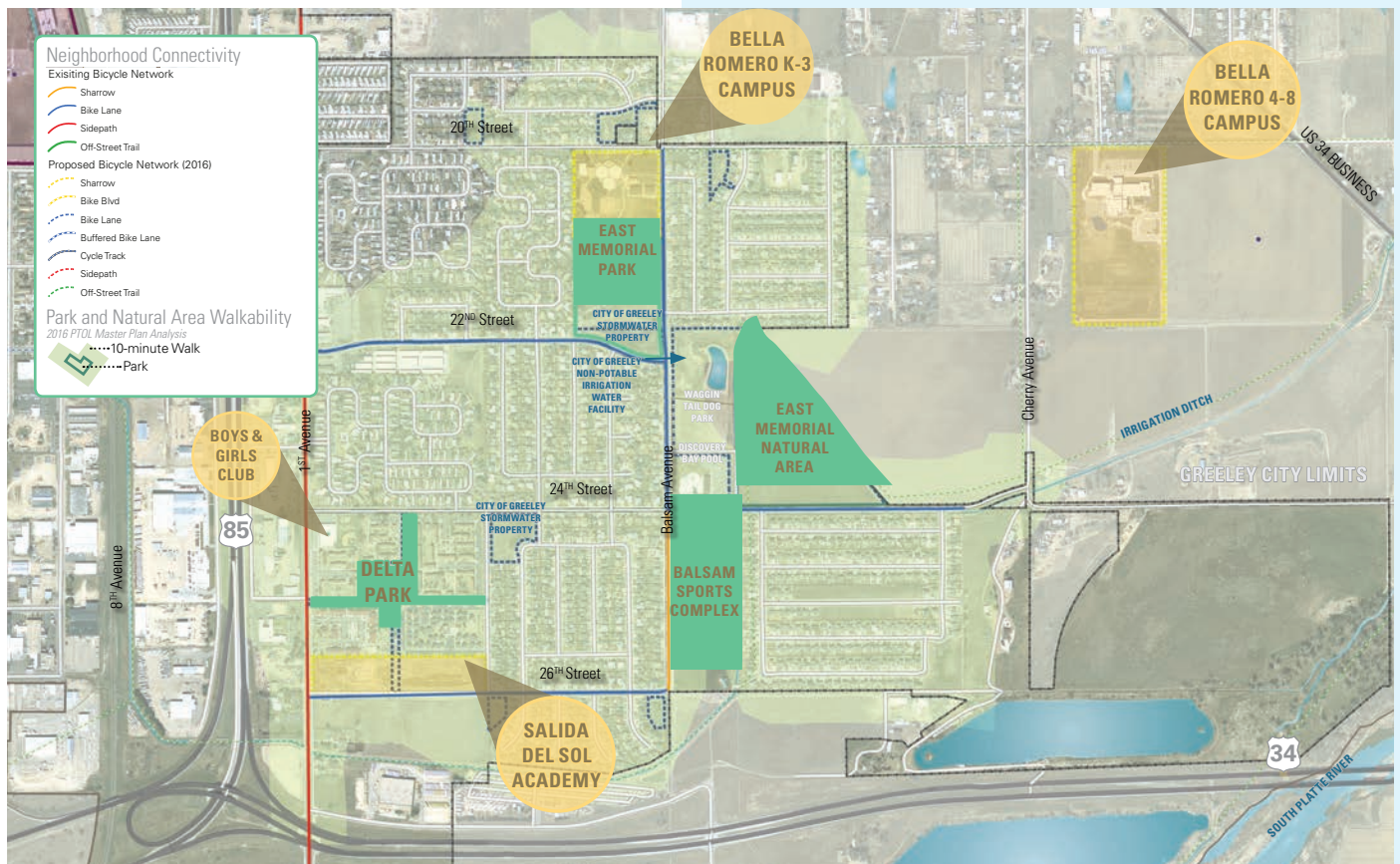
- The population is unsatisfied with current opportunities to experience nature.
- The population expresses a desire to spend more time in nature.
- The project could provide the opportunity to do the outdoor activities that residents desire.

Project Feasibility

- There a high potential to engage schools and youth centers in the project development.
- There are opportunities to tie into other initiatives or projects.
- The project would result in a high-level of use by the target audience.
- The project would present an opportunity to change the way the focus area interacts with nature.

MAP 3

EAST MEMORIAL FOCUS AREA



More than one in four households have an income below the poverty level. The median income is \$38,078 annually, with an expected increase over the next five years of less than 1%. This is considerably lower than Greeley's median household income of \$49,196 and the State of Colorado's median household income of \$60,903.

Although the area is served by four parks or natural areas, it is markedly underserved by quality natural experiences. Delta Park, East Memorial Park, Balsam Sports Complex and East Memorial Natural Area each received 'C' 'Nature Scores' and limited opportunities exist to access natural resources in close proximity.

Neighborhood Schools

Greeley-Evans School District 6 has grown to the 13th largest school district in the state of Colorado serving over 22,000 students in the communities of Greeley and Evans. Schools serving the East Memorial youth include the Bella Romero kindergarten through third grade campus, Bella Romero fourth through eighth grade campus and Salida del Sol kindergarten through eight grade charter school campus. Cumulatively, these schools served a student body totaling 1,876 during the 2016/2017 school year. All three schools report high populations of hispanic youth and students that receive free or reduced school meals. The two Bella Romero campuses combined enrolled a student body that was nearly 81% Hispanic and Salida del Sol, which provides a dual language education, exceeded 96%.

Enrollment numbers available from the Jerry Pawl Boys and Girls Club indicate that 69% of the youth they served during the 2016/2017 school year were Hispanic. Approximately half of the youth served come single-family households and nearly three-fourths receive free or reduced school meals.



East Memorial Neighborhood is located in close proximity to natural resources like the South Platte River and numerous agricultural fields. However, there are limited opportunities to access these resources and the parks and natural areas that are located in the neighborhood do not contain the characteristics of quality natural experiences.

BELLA ROMERO:

- **1,132 students**
 - 916 Hispanic (80.8%)
 - 124 White (10.9%)
 - 77 Black (6.8%)
 - 10 Asian (0.88%)
 - 4 - 2+ races (0.35%)
 - 1 Native American (0.088%)
 - 1 Native Hawaiian/Pacific Islander (0.088%)
- **87% of students receive free/reduced school meals.**

SALIDA DEL SOL:

- **744 students**
 - 717 Hispanic (96.4%)
 - 26 White (3.5%)
 - 1 Native American (0.134%)
- **88.2% receive free/reduced school meals.**

JERRY PAWL BOYS & GIRLS CLUB:

- **829 students**
 - 473 male (57%)/356 female (43%)
 - 574 Hispanic (69%)
 - 152 White (18%)
 - 68 Black (8%)
 - 23 2+races (2.8%)
 - 9 Native American (1%)
 - 3 Asian (0.4%)
- **421 come from single parent households. 617 receive free/reduced school meals.**

School data: CDE 2016-2017.

The Boys & Girls Club data: Boys & Girls Clubs of Weld County 2016-2017.

HUBS

The city of Greeley will serve as the coordinating hub and will work with its partners and Get Outdoors Colorado to implement the Get Outdoors Greeley Initiative. As the coordinating hub, the City will also work closely with other members of the Cache la Poudre Coalition to successfully deliver on the places, program, and pathways as stated in the proposal. The city of Greeley will facilitate investment in building and enhancing places to deliver the programs and pathways opportunities, particularly in the underserved east Greeley neighborhood, so that youth and their families can discover and explore nature in Greeley, Weld County, and Northern Colorado. The city of Greeley is best suited as the Get Outdoors Greeley Initiative coordinating hub for the following reasons:

- The City is committed to advancing quality outdoor programming and improving outdoor experiences for those families living in underserved neighborhoods.
- The City has been instrumental in initial planning process and deeply understands the need for and the intent of the initiative.
- The City is passionate and enthusiastic about effecting positive changes in people and places through the initiative.
- Working together with the Coalition, they collectively have the capacity to provide the human resources to deliver the program and pathway goals, monitor budgets and timelines, and complete feedback and required reports to stakeholders.

A programmatic hub is an organization(s) with trusted community relationships that is currently reaching youth and their families and is interested in expanding and, or enhancing their scope of work to support programs, places and career pathways. Examples of hubs include schools, recreation centers, nature centers, health clinics or a collections of these places. Selected hubs will play a central role in connecting youth to the outdoors and collaborating with other entities to ensure that all youth in the community are provided equitable opportunities for outdoor access.

PROGRAMMATIC HUB SELECTION

One intention of this Initiative is to help youth and their families experience a taste of the outdoors through programs close-to-home, in schools and clubs, in City parks and natural areas and in the backcountry. The city of Greeley along with the Cache la Poudre Coalition, will empower specific programmatic hubs through GOCO funding. *A programmatic hub is an organization with trusted community relationships that is currently reaching youth and their families and is interested in expanding and, or enhancing their scope of work to support the programs, places, and career pathways.* The Get Outdoors Greeley Initiative programmatic hubs are the following organizations that have trusted community relationships in the east Greeley neighborhood:

- Bella Romero K-3 and Bella Romero 4-8
- Salida del Sol Academy,
- Jerry Pawl Boys & Girls Club of Weld County.

These programmatic hubs will play a central role in the Get Outdoors Greeley Initiative in connecting youth to the outdoors and collaborating

TABLE 1

PROGRAMMATIC HUB SELECTION CRITERIA

HUB selection criteria included factors such as:

Socio-Economic Factors

- The HUB serves a large and diverse population.
- The HUB serves a high concentration youth.
- The HUB serves households with lower income levels or households with an income below poverty level.

Survey & Stakeholder Input

- The HUB reaches residents unsatisfied with current opportunities to experience nature.
- The HUB could provide the opportunities to do the outdoor activities that residents desire.

HUB Feasibility

- There a high potential to expand or enhance the HUBs youth engagement with the outdoors.
- There are opportunities for the HUB to tie into other initiatives or projects.
- The HUB would attract a high-level of participation by the target audience.
- The HUB presents an opportunity to change the way the focus area interacts with nature.

TABLE 2

PARTNERING ORGANIZATIONS

- Greeley-Evans School District 6
- Turn-Around Bikes
- Colorado Youth Outdoors
- Poudre Learning Center
- Sky Corral Ranch
- Poudre Heritage Alliance

with partnering organizations to ensure that all kids in the east Greeley community are provided equitable opportunities for outdoor access. Through these hubs and partners, a suite of programs will be offered to build recreation skill sets no matter what level participant(s) may personally possess. Programs will be taught by volunteer leaders who have been trained by Colorado Youth Outdoors and Poudre Learning Center staff.

In the past, authentic community engagement has proven to be difficult in east Greeley. However, Bella Romero K-3, Bella Romero 4-8, Salida del Sol, and the Jerry Pawl Boys & Girls Club of Weld County hubs have developed the deepest and strongest relationship with youth and families in the area. The people associated with these hubs played a significant role in bringing the youth voice to the Cache la Poudre Coalition's planning process and are eagerly committed to delivering the initiative's programs. Because of the trust and the deep connections that these four organizations established with the youth and their families in the east Greeley community and their commitment to the vision and goals of the Get Outdoors Greeley Initiative, the four partners are best suited as programmatic hubs and will be critical assets in the successful implementation of the initiative.

The Get Outdoors Greeley Initiative will influence the underserved population of youth and families living in east Greeley to explore new and engaging outdoor programs and nature-based experiences. City of Greeley will be able to significantly improve areas in east Greeley labeled 'Nature Disadvantaged' and provide more ways for the community to access nearby natural resources. As trusted organizations within the community dedicated to serving others, hubs will be impacted by being able to provide an enhanced scope of new offerings and amenities that will be available to underserved youth and their families in east Greeley.

GET OUTDOORS GREELEY INITIATIVE IMPACTS

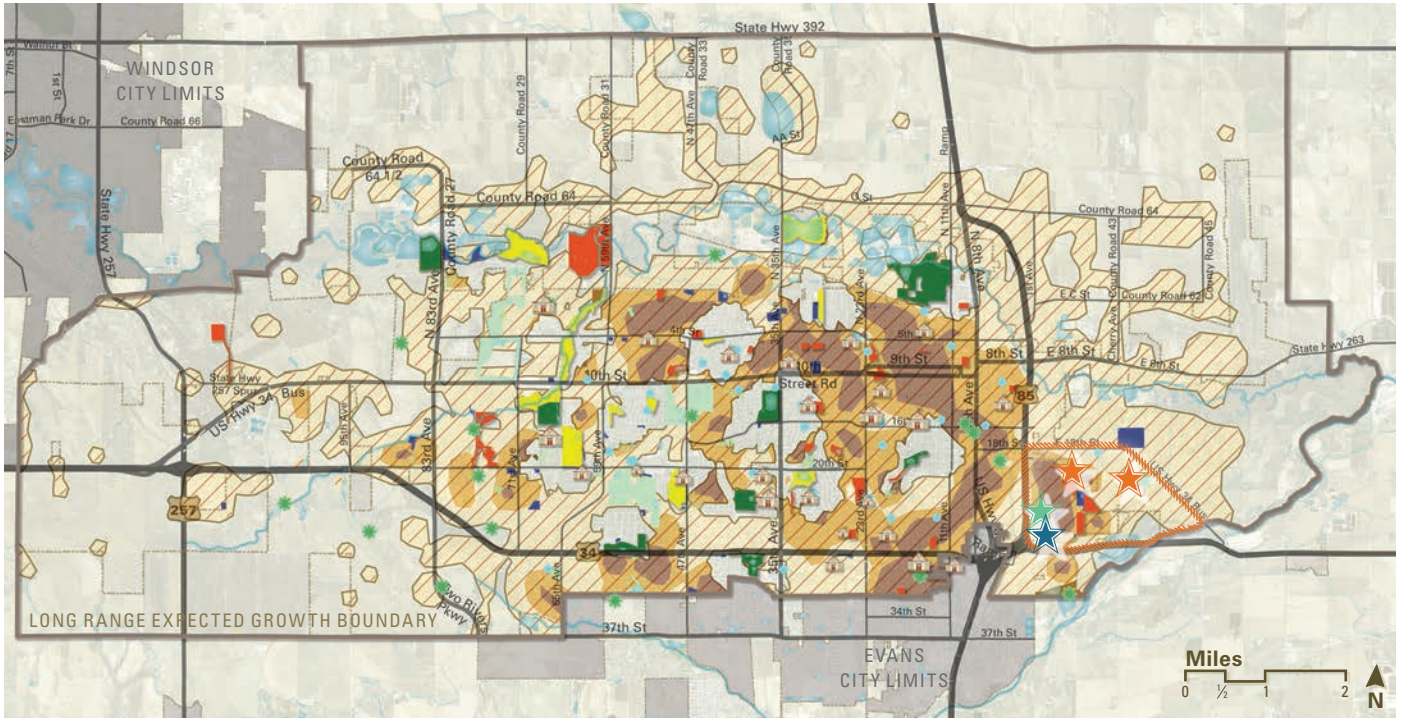
The Get Outdoors Greeley Initiative has a strong potential to positively impact the City of Greeley and the underserved youth and families that live in the East Memorial neighborhood. This Initiative is compelled to improve the natural experience in this neighborhood because of the higher percentage of youth and higher poverty rate than the greater Greeley area and the other 'Nature Disadvantaged' areas in Greeley.

PLACES


Currently, access to any high-quality park or natural area within walking distance is very limited in the East Memorial neighborhood. Recommended improvements to the natural experience within the neighborhood have the potential to reach nearly all of the 7,200 residents within the diverse focus area. Approximately 75% of the households in the neighborhood are within walking distance to either East Memorial Park and, or, East Memorial Natural Area. Design interventions in this focus area would greatly reduce the extent of Greeley's 'Nature Disadvantage Area' east of Highway 85, as Map 4 illustrates.

PROGRAMS AND PATHWAYS


The vision of for programs, and pathways will create new opportunities to engage youth and families in the great outdoors and encourage exploration into careers important to the natural world around them. The comprehensive approach recommended will train, lead, and inspire youth, parents, and leaders in our community to appreciate, enjoy and take care of our great outdoors. Programs will supported through the Programmatic Hubs and will emphasize: archery, astronomy, camping, fishing, and watercraft use. Programs supported through this Initiative will also provide individual tool kits for the participant's maximum experience and support the development of instructional materials. These materials will range from hand books and journals to accessories such as vests for easy transport and accessibility to materials. In addition, a total of 25 paid internships over 3 years for high school and college students are recommended for implementation. Attendance at the annual Career Fair provides an opportunity to connect with over 1,400 8th grade students each year.






GREELEY'S NATURAL EXPERIENCES

-  'A' Park or Natural Area With a Nature Score **Greater than 15**
-  'B' Park or Natural Area With a Nature Score **Between 10 to 15**
-  'C' Park or Natural Area With a Nature Score **Less than 10**

NATURE DISADVANTAGED AREA

 Greater than 1/2 mile walking distance from an 'A' or 'B' park or natural area.

Priority Areas

-  **HIGH** More than 2,000 Households
-  1,000 to 2,000 Households
-  Fewer than 1,000 Households




CITY-WIDE AREAS OF OPPORTUNITY

-  Potential Park Site (2016 Parks, Trails and Open Lands Master Plan)
-  City of Greeley Stormwater Property
-  Nature Disadvantaged Area
-  Youth Center (Child Care Facility, Boys and Girls Club, etc.)
-  School Site
-  Golf Course

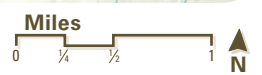
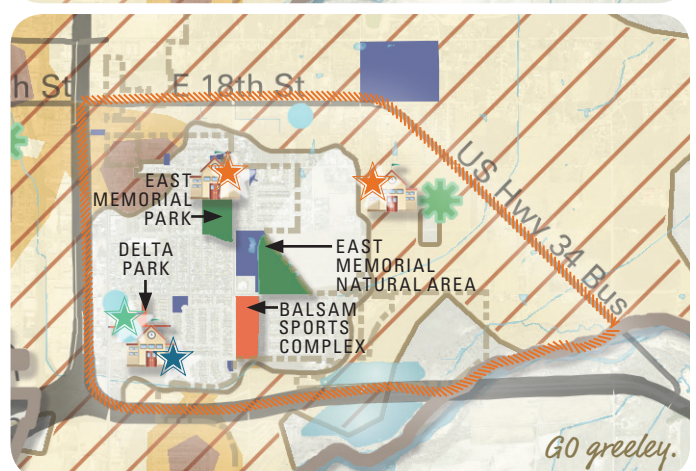
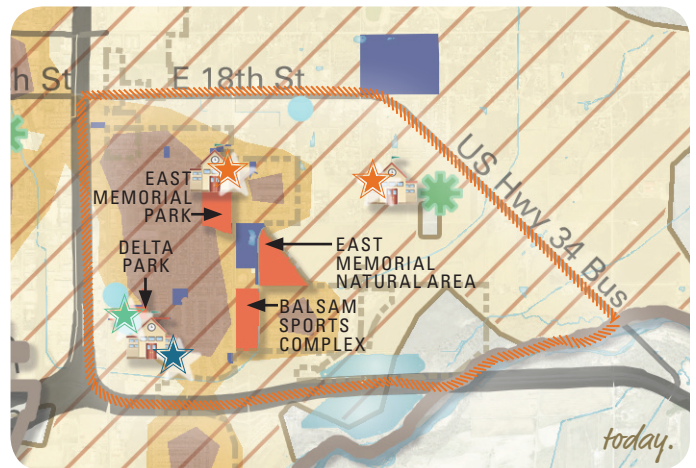
FOCUS AREA

 East Memorial Neighborhood

PROGRAMMATIC HUBS

-  Jerry Pawl Boys and Girls Club
-  Bella Romero
-  Salida del Sol

IMPACT OF IMPROVEMENTS TO THE EAST MEMORIAL NEIGHBORHOOD





Inspire Recommendations

PLACES

- East Memorial Natural Area
- Bella Romero Growing Grounds and East Memorial Park
- East Memorial Neighborhood Bicycle and Pedestrian Connection Improvements

PROGRAMS AND PATHWAYS

- Nature Mobile
- Cycle 4 Change
- Turn Around Bikes
- Recreation and Environmental Education
- Growing Grounds
- Career Opportunities in Nature

PLACES

EAST MEMORIAL NEIGHBORHOOD

Listening sessions with parents and families and design reviews in the classroom an local Boys and Girls Club were held in the East Memorial neighborhood to:

- Understand where youth in the neighborhood are getting outdoors and the quality of these places.
- Solicit ideas to provide fun experiences that create memorable teaching and learning moments for youth and parents as they build relations and enjoy nature.
- Identify the design interventions to enhance the natural experience.

CURRENT CONDITION

City of Greeley owns and maintains the East Memorial Natural Area and the East Memorial Park. The natural area was recently acquired and designated as a natural area but has not yet been planned for public recreation. The park is adjacent to the Bella Romero Academy of Applied Technology Kindergarten through Third Grade Campus, a Weld County District Six school. These two locations were selected for improvements to the natural experience in the neighborhood.

The natural area remains a relic of agricultural fields. Tall grasses cover the site and a canal rings the perimeter. The site currently hosts oil and gas wells, but these activities will soon be terminated in this location. Adjacent to the natural area is a City stormwater property containing a non-potable pond. This area is currently surrounded by a chain-link fence. To date, no amenities for the public have been developed in the natural area.

The park provides the neighborhood with much needed social and physical activity amenities including large turf areas, basketball courts, a ball field, picnic pavilions, walking paths and a new playground. Pick-up basketball games and soccer make use of the sports facilities. Baby showers, birthdays and barbecues are hosted often in the park's pavilions. Walking paths are popular with neighborhood mothers as they provide the opportunity for exercise while the playgrounds provide spaces for their children to play. All the offerings in the park are important to the neighborhood, but the park in its current condition provides few opportunities to connect to nature.

The existing Bella Romero K-3 campus located adjacent to the East Memorial Park currently consists of a school building that is over 50 years old with a typical outdoor blacktop schoolyard area and older playground structures plus one newer play structure. The current facilities are outdated and underutilized by the east Greeley community because the space lacks outdoor areas of interest.

BARRIERS TO GETTING OUTDOORS

The youth largely reported that outdoor spaces in the neighborhood do not give them and their friends and families a good place to spend time in nature. Students expanded that there wasn't anything interesting to do close to their homes and the natural areas were



“boring.” A high level of support for making improvements to this neighborhood was identified in the survey responses. It is a location identified as ‘Nature Disadvantaged’ and also having a high concentration of residents and students that have economic and social demographic characteristics indicating they likely have greater challenges to spending time in nature. Improvements to the neighborhoods natural experience have the potential to reach 7,200 surrounding residents.

OPPORTUNITIES FOR IMPROVEMENT

One opportunity for improvement to the neighborhood has already been identified by the District 6 Nutrition Services. Greeley-Evans School District 6, in cooperation with the Bella Romero Academy K-3 Campus and Halcyon Design, has prepared to submit for a Get Outdoors Colorado School Initiatives Grant to fund a greenhouse project that supports their nature-based curriculum. These efforts have been aligned with the Get Outdoors Greeley Initiative to improve outdoor spaces in the east Greeley neighborhood.

This project, titled the ‘Growing Grounds Initiative’, will be located on the Bella Romero K-3 campus in the footprint of the school’s existing outdated playground area. The scope of the project will include exploratory outdoor gardens, four hoop houses and a greenhouse; an urban orchard with approximately 15 fruit trees such as peach, pear, apple, plum, and grape vines; a children’s interactive play area

with an agricultural theme; approximately 12 community garden plots; and an outdoor kitchen/classroom.

The Growing Grounds community gardens will provide a place for neighborhood families to grow fresh produce and take outdoor cooking classes to promote healthy eating. The renovated space will provide an agriculture-themed interactive play space for area youth and classes where students from all District 6 schools can play and learn while “growing” their knowledge about nutrition, food preparation, and agriculture through hands-on experiences. The vision of Growing Grounds is to provide students with an outdoor learning environment where students can explore and learn about plants, insects, food production, environmental conditions and land stewardship. Through Growing Grounds, students and families in the east Greeley neighborhood will be better connected with the region’s rich agricultural heritage and their local food system.

In addition to the school grounds, desired improvements to the nature experience within East Memorial Park and East Memorial Natural Area were identified through design reviews from students at Bella Romero and youth at the Jerry Pawl Boys and Girls Club and input from families during an open house. The most desired activities and experiences to improve the natural experience are shown on the facing page. Overwhelmingly, the neighborhood youth and their parents would like nature in their neighborhood to provide a degree of adventurous, help them develop skills and allow for self-discovery. Ropes and adventure courses, adventurous fun, rock climbing and archery received the highest level of interest from participants. As largely action-based activities, these offer the neighborhood stimulating opportunities to spend time outdoors and build confidence in skills to take from their backyards to the backcountry. Similar levels of interest were expressed for activities that offer deeper exploration, contemplation and learning such as stargazing, pollinator gardens, edible forests, interactive and environmental art installations and imaginative play spaces.

GROWING GROUNDS INITIATIVE

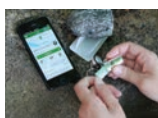
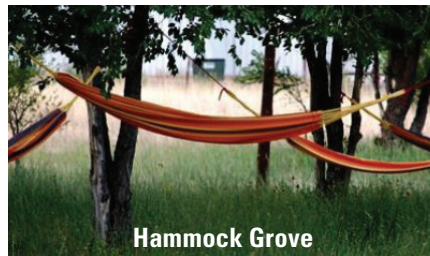
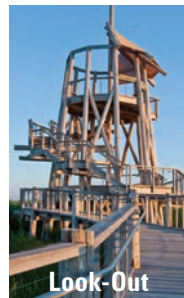


DESIRED IMPROVEMENTS TO THE EAST MEMORIAL NEIGHBORHOOD NATURE EXPERIENCE

outdoor adventure. skills building.

exploration. contemplation. learning.

HIGH
↑
LEVEL OF INTEREST
↓
LOW



EAST MEMORIAL NATURAL AREA

VISION SCOPE

An adventure play natural area for youth and their families is imagined for Greeley's East Memorial Natural Area. While conceived to serve the area youth, it is anticipated the natural area will have a regional draw. The concept reimagines the existing, weeded lot into a child-led adventure play experience. In the spirit of creativity, the natural area has been designed around a network of paths, crossing high-plains prairie grasses, leading to key elements to encourage nature interaction, skills building and reflection.

An interactive water play area greets adventurers coming from the popular Discovery Bay Splash Park, a gesture to the City's system of canals and agricultural heritage. A simple nature playground with features designed for the littlest explorers and encircled by a fort-structure sits at the arrival to the Natural Area from the parking area. From each of these access points paths weave through the natural landscape passing interactive environmental art installations, stopping at a hammock grove or a look-out tower outfitted with night sky watching features, before finally leading adventurers to the skills-building courses.

Obstacles, climbing nets and mixed-sized climbing boulders geared for the never-evers to the kings-of-the-hill are positioned to lead adventurers up to the ropes course. Climbing ropes, low platforms and a zip-line mimicking swings sit atop a hill, marking the highest level of adventure the Natural Area offers. All of these elements have been selected to avoid staffing a supervisor. Situated behind the skills-building courses is an archery range with removable targets. This is an activity that will require supervision and program support. When not in use as an archery range, the space can function as an outdoor classroom.

On the north-east corner of the Natural Area is a City-owned water storage property. The non-potable pond has been revegetated around its banks to naturalize the pond and direct access to the water's edge at identified points. A learn-to-cast platform has been included for the curious angler. Adjacent to the pond, in the remaining grassy fields, a bike skills course has been carved into the elevation changes that exist on site.

Plant materials selected for the Natural Area reflect the high-plains palette and reinforce the area's natural character. The list to the right highlights the species that will be used to remind adventurers, this is not their average park - imagination and engagement are encouraged.

Precedent parks reviewed for inspiration included:

- Irvine Adventure Playground *University Park, CA*
- Wimberley Blue Hole Regional Park *Wimberley, TX*
- Heavenly Adventure Peak *South Lake Tahoe, CA*
- Melbourne City Park *Melbourne, Australia*

Natural Area Planting Palette



Grasses:

- Low grow species near trails and paths, archery/classroom area: Buffalo, Blue Grama
- Taller species in open areas: Little Blue Stem, Western Wheatgrass, Sideoats Grama, Sand Dropseed
- Other grasses: Needle and thread grass, three awn



Wildflowers:

- Purple prairieclover (*Dalea purpurea*)
- Rocky Mountain Bee Plant (*Cleome serrulata*)
- Prairie coneflower (*Ratibida* sp)
- Goldenrod (*Solidago rigida*)
- Blazingstar (*Mentzelia nuda*)
- White sweetclover (*Melilotus albus*)
- Rocky Mountain Blazingstar (*Liatris liliostylus*)
- Dakota Mock Vervain (*Glandularia bipinnatifida*)
- Scarlet globemallow (*Sphaeralcea coccinea*)
- Evening primrose (*Oenothera caespitosa*)
- Prairie aster (*Symphoricarum falcatum*)
- Hopi Tea Greenthread (*Thelesperma megapotanicum*)
- Milkweeds (*Asclepias* sp)



Shrubs:

- Rabbitbrush (*Chrysanthamus nauseosus*)
- Curlleaf Mountain Mahogany (*Cercocarpus ledifolius*)
- Apache Plume (*Fallugia paradoxa*)
- Rocky Mountain Juniper (*Juniperus scopulorum*)
- Leadplant (*Amorpha canescens*)
- Sand cherry (*Prunus pumila*)
- American plum (*Prunus Americana*)
- Serviceberry (*Amelanchier* sp)



Trees:

- Plains Cottonwood (*Populus deltoides*)
- Hackberry (*Celtis occidentalis*)
- Catalpa (*Catalpa speciosa*)
- Pinyon Pine (*Pinus edulis*)
- Bristlecone Pine (*Pinus aristata*)
- Bur Oak (*Quercus macrocarpa*)
- Texas Red Oak (*Quercus buckleyi*)

EAST MEMORIAL NATURAL AREA CONCEPTUAL PLAN



- A Crosswalk and Path** connecting East Memorial Park and Bella Romero K-3 Campus to the East Memorial Natural Area

B Bike Skills Course built into the existing topography of a stormwater detention basin.
Target User: Middle to High School Age Groups

C Non-Potable Pond Area featuring a floating dock and 'learn-to-cast' practice area.
Target User: Elementary to Middle School Age Groups

D Interactive Water Play created by diverting a small channel of water from the irrigation ditch into the Natural Area.
Target User: Elementary to Middle School Age Groups

E Wild Play Area encircled by fort-structure to provide a wooded experience in this high-plains environment.
Target User: Tots to Elementary School Age Groups

F Hammock Grove tucked into a quiet, vegetated area.
Target User: Middle to High School Age Groups
- G Climbing and Bouldering** area with gently sloping climbing walls and mixed sized boulders for all levels.
Target User: Elementary to High School Age Groups

H Archery Range with removable targets and a backstop created through a natural berm. *Will require supervision.*
Target User: Elementary to High School Age Groups

I Ropes Course featuring climbing ropes and platforms, miniature zip-lines and obstacles. *Will not require supervision.*
Target User: Elementary to High School Age Groups

J Wellness Loops interspersed with natural environment learning opportunities.
Target User: Elementary to High School Age Groups

K Environmental Art featuring climbing ropes and platforms, miniature zip-lines and obstacles.
Target User: Elementary to High School Age Groups

L Look Out Tower overlooking the entire Natural Area featuring nets and interactive features.
Target User: Elementary to High School Age Groups

PRECEDENT IMAGERY



C Interactive Water Play



E Hammock Grove



D Interactive Nature Play Area



F Climbing and Bouldering Area



G Archery Range



H Ropes Course



J Environmental Art



K Look-Out Tower



BELLA ROMERO GROWING GROUNDS AND EAST MEMORIAL PARK

VISION SCOPE

With community gardens and kitchen space taking root on the adjacent elementary school campus, enhancements to the natural experience within East Memorial Park look to further connections to plants, food systems and water cycles. Much of the park will remain a gathering area for the neighborhood and a site for physical activities. In strategic locations, experiential elements will be integrated into the park tying the existing features to the new amenities. An expanded system of paths will circle the park, for walkers and joggers, and navigate through the new features, for the explorers.

The orchard initially envisioned as part of the growing grounds has branched out to include more than fruit trees. An edible forest introduces fruit-bearing bushes adapted to the Eastern Colorado climate, perennial herbs and the so-called 'party-plants' such as hops and grapes. Infusion of forest gardens into a typical orchard increases garden productivity and teaches forest ecology. Harvest tables located among the rows of trees and plants provide space to gather, both fruit and friends.

A swath of plants designed to attract butterflies and pollinators leads children and their families from the community gardens and edible forest to the celebration area and picnic pavilions. The garden will bloom from early spring to late fall with carefully selected native plants, designed to attract the birds and the bees and catch the eye of the young gardener. Recommended plants for the Front Range are listed to the right.

At the southernmost end of the park, the existing stormwater detention area gets a low impact development facelift. The intent of the facelift is to keep stormwater runoff as uncontaminated as possible and educate neighbors in the process. In sudden rainfall events releasing large amounts of water quickly, the runoff slows down and collects in the detention basin before infiltrating into the aquifer or moving through the system to a larger basin. During times of no rainfall, the detention basin stays dry. Native Colorado plants that will create an interactive experience around and in the detention basin are provided to the right.

Enhancement and Replacement of Facilities

Several facilities serving the community exist in East Memorial Park, those to remain on-site include:

- Playground
- Basketball Courts
- Picnic Pavilions for small group gatherings
- Walking Paths
- Turf Areas for Soccer and Pick-up Sports
- Baseball/Softball Diamond

Park Planting Palette



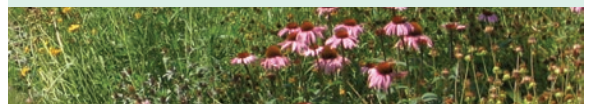
Edible Forest:

- Cold-hardy well-producing fruit trees: apples, pears, sour cherries, european plums
- 'Party plants': Grapes and hops
- Fruit bushes: currants, gooseberries, nanking charries, jostaberries
- Perennial herbs: chives, oregano, thyme, sage, rosemary, lavender



Pollinator Garden:

- Butterfly weed (*Asclepias speciosa*)
- Mint Family (*Lamiaceae*)
 - Lavendar
 - Thyme
 - Hyssop
 - Bee Balm
 - Russian Sage
- Sedum Autumn Joy (*Sphaeralcea coccinea*)
- Wild Geranium (*Solidago rigida*)
- Beards Tongue (*Penstamon*)
- Coneflower (*Echinacea*)
- Iris (*Iris missouriensis*)
- Yarrow (*Achillea millefolium*)
- Moonbeam Tickseed (*Coreopsis moonbeam*)
- Blanket Flower (*Gaillardia grandiflora*)
- Silver Fountain Butterfly Bush (*Buddleia alternifolia* 'Argentea')
- Blue Mist Spirea (*Caryopteris x clandonensis* 'Blue Mist')
- Oregon Grape Holly (*Mahonia aquifolium*)
- Three leaf sumac (*Rhus aromatica* ssp. *Trilobata*)
- Cheyenne Mock Orange (*Philadelphus lewisii*)
- Little Leaf Linden (*Tilia cordata*)



Dry Stormwater Area:

- Prairie Sandreed (*Calamovilfa longifolia*)
- Indian Ricegrass (*Oryzopsis hymenoides*)
- Sand Dropseed (*Sporobolus cryptandrus*)
- Western Wheatgrass (*Pascopyrum smithii*)
- Blanket Flower (*Gaillardia aristata*)
- Purple Prairie Clover (*Dalea purpurea*)
- Yarrow (*Achillea lanulosa*)
- Sulpher Flower (*Eriogonum umbellatum*)

EAST MEMORIAL PARK AMENITIES AND EXPERIENCE IMPROVEMENTS



- A Community Kitchen and Garden** complete with classroom garden plots to educate neighborhood youth and families about food production and healthy eating.
*Target User: Youth and Families in the Community
 Funding through Growing Grounds Initiative*
- B Growing Grounds Play Area** providing food system educational play elements readily accessible to elementary youth at Bella Romero and neighborhood children.
*Target User: Students at Bella Romero K-3 Campus
 Primary Funding through Growing Grounds Initiative*
- C Edible Forest** featuring fruit-bearing trees, bushes, herbs and picnic tables for small gatherings in the shade of the trees.
Target User: Youth and Families in the Community
- D Pollinator Garden** extending from the edible forest to provide an interactive experience with a wide variety of plants that attract butterflies and bees.
Target User: Youth and Families in the Community
- E Celebration Area** providing a flexible space for large group gatherings.
Target User: Youth and Families in the Community
- F Dry Stormwater Detention Basin Improvement Area** featuring natural vegetation and exploratory trails.
- G Wellness Loop** circling the Park to encourage walking.
- H Safe Access** to adventure and wild play located in East Memorial Natural Area.



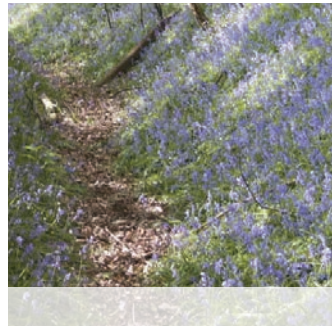
PRECEDENT IMAGERY



C Edible Forest



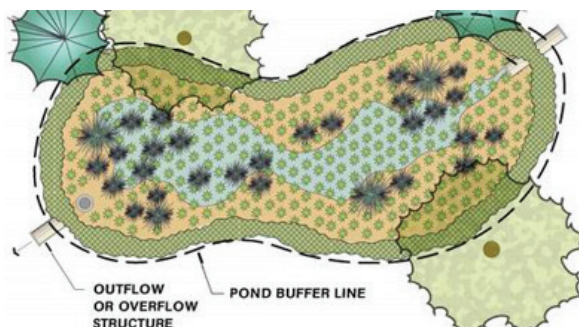
D Pollinator Garden



E Growing Grounds Play Area



F Detention Basin



CONCEPTUAL ESTIMATE OF COST

EAST MEMORIAL NATURAL AREA

| General Natural Area Components | | | | |
|---|-------|--------------|--------------------|-----------------------|
| | UNIT | UNIT COST | QUANTITY ESTIMATED | ITEM TOTAL |
| General | | | | |
| Construction Surveying | Allow | \$40,000.00 | | \$40,000.00 |
| Mobilization/Division 1 (4%) | Allow | \$140,000.00 | | \$140,000.00 |
| Site Preparation | SY | \$0.50 | 400,000 | \$200,000.00 |
| Erosion Control and Weed Management Plan | Allow | \$10,000.00 | | \$10,000.00 |
| Demolition of existing site shallow utilities | Allow | \$20,000.00 | | \$20,000.00 |
| Subtotal General | | | | \$410,000.00 |
| Grading and Drainage | | | | |
| Park Mass Grading | Allow | \$75,000.00 | | \$75,000.00 |
| Import Subgrade Fill | Allow | \$100,000.00 | | \$100,000.00 |
| Subtotal Grading and Drainage | | | | \$175,000.00 |
| Utilities | | | | |
| Solar Lighting Material (SOL) | Allow | \$15,000.00 | | \$15,000.00 |
| Solar Lighting Installation | Allow | \$1,000 | | \$1,000.00 |
| Parking Lot Lighting | EA | \$5,000.00 | 3 | \$15,000.00 |
| Subtotal Utilities | | | | \$31,000.00 |
| Hardscape, Walkways and Surfacing | | | | |
| Concrete Sidewalk 10' | SF | \$4.50 | 11,300 | \$50,850.00 |
| Concrete Path 8' | SF | \$4.50 | 10,200 | \$45,900.00 |
| Pedestrian Bridge | Allow | \$15,000.00 | | \$15,000.00 |
| ADA Gravel Fines Trail 6' | SF | \$4.00 | 8,000 | \$72,000.00 |
| Compacted Earth Trail | LF | \$2.00 | 3,000 | \$6,000.00 |
| Asphalt Parking Lot 10 SPOTS | SY | \$20.00 | 2,500 | \$50,000.00 |
| Concrete Driveway Cross Pan | SF | \$8.00 | 1,200 | \$9,600.00 |
| Subtotal Hardscape, Walkways and Surfacing | | | | \$249,350.00 |
| Planting and Landscape | | | | |
| Tree | EA | \$500.00 | 10 | \$5,000.00 |
| Ornamental Trees | EA | \$400.00 | 50 | \$20,000.00 |
| Shrubs | EA | \$45.00 | 500 | \$22,500.00 |
| Ornamental Grasses/Native Planting | EA | \$10.00 | 500 | \$5,000.00 |
| ReSeeding - High Plains Grasses | SF | \$0.25 | 400,000 SF | \$100,000.00 |
| Top Soil | CY | \$30.00 | 8,000 CY (6") | \$240,000.00 |
| Mulch | CY | \$45.00 | 2,000 CY (2") | \$90,000.00 |
| Boulders | TON | \$250.00 | 100 TONS | \$25,000.00 |
| Subtotal Planting and Landscape | | | | \$507,500.00 |
| Site Amenities | | | | |
| Trash/ Recycling | Allow | \$2,000.00 | | \$2,000.00 |
| Bench | Allow | \$15,000.00 | | \$15,000.00 |
| Bicycle Rack | Allow | \$2,000.00 | | \$2,000.00 |
| COG Park Signs | Allow | \$7,500.00 | | \$7,500.00 |
| Informational Kiosk | Allow | \$7,500.00 | | \$7,500.00 |
| Trail Markers / Directional Signage | Allow | \$5,000.00 | | \$5,000.00 |
| Natural Areas Fencing | LF | \$5.00 | 1,000 LF | \$5,000.00 |
| Vehicular Gate | EA | \$2,500.00 | 1 | \$2,500.00 |
| Subtotal Site Amenities | | | | \$46,500.00 |
| Subtotal General Components | | | | \$1,419,350.00 |
| Specific Natural Area Components | | | | |
| | | | | ITEM TOTAL |
| Interactive Water Play | | | | |
| Subtotal Interactive Water Play | | | | \$21,000.00 |
| Nature + Landform Play Area | | | | |
| Subtotal Natural Playground | | | | \$55,500.00 |
| Adventure Play Area | | | | |
| Subtotal Adventure Play Area | | | | \$115,000.00 |
| Look-Out Tower | | | | |
| Subtotal Look Out-Tower | | | | \$80,000.00 |
| Hammock Grove | | | | |
| Subtotal Hammock Grove | | | | \$2,550.00 |
| Archery Range | | | | |
| Subtotal Archery Range | | | | \$5,500.00 |
| Environmental Art | | | | |
| Subtotal Environmental Art | | | | \$17,500.00 |
| Bike Skills Course | | | | |
| Subtotal Bike Skills Course | | | | \$10,000.00 |
| Stormwater Detention Pond Improvements | | | | |
| Subtotal Stormwater | | | | \$24,000.00 |
| Subtotal Specific Components | | | | \$331,050.00 |
| Sub Total | | | | \$1,750,400.00 |
| Design and Engineering Fees | | | 10.5% | \$183,792 |
| Contractor Overhead | | | 6% | \$105,024 |
| Overhead and Profit | | | 5% | \$87,520 |
| Contingency | | | 10% | \$175,040 |
| Total Estimate of Site Construction | | | | \$2,117,984.00 |

EAST MEMORIAL PARK

| Specific Improvements to Amenities and Experiences | | | | ITEM TOTAL |
|--|------------------------|-------------|--------------------|---------------------|
| Edible Forest | Unit | Unit Cost | Quantity Estimated | |
| Fruit-Bearing Trees | EA | \$400.00 | 10 | \$4,000.00 |
| Tools and Soil Amendment | Allow | \$1,000.00 | | \$1,000.00 |
| Harvest Tables | EA | \$400.00 | 3 | \$1,200.00 |
| Subtotal Edible Forest | | | | \$6,200.00 |
| Pollinator Garden | | | | |
| Subtotal Pollinator Garden | | | | \$15,000.00 |
| Contribution to Growing Grounds Play Area | | | | |
| Subtotal of Contribution | | | | \$50,000.00 |
| Walking Path | | | | |
| Concrete Path 6" | SF | \$4.50 | 10,500 | \$47,250.00 |
| Subtotal Walking Path | | | | \$47,250.00 |
| Celebration Area | | | | |
| Shade Structure/Pavilion | Allow | \$35,000.00 | | \$35,000.00 |
| Seating and Tables | Allow | \$10,000.00 | 4 | \$40,000.00 |
| BBQ | EA | \$10,000.00 | | \$10,000.00 |
| Subtotal Celebration Area | | | | \$85,000.00 |
| Dry Stormwater Detention Area | | | | |
| Engineering Study (Length of Water Detention, Capacity, Frequency) | Allow | \$2,000.00 | | \$2,000.00 |
| Survey | Allow | \$15,000.00 | | \$15,000.00 |
| Grading and Preparation | Allow | \$20,000.00 | | \$20,000.00 |
| Inflow/Incoming Sediment Trap ReDesign | Allow | \$20,000.00 | | \$20,000.00 |
| Outlet Redesign | Allow | \$20,000.00 | | \$20,000.00 |
| Wildflower and Grasses Revegetation | SF | \$0.25 | 123,310 | \$30,827.50 |
| Trees (Cottonwoods, Willows) | EA | \$300.00 | 5 | \$1,500.00 |
| Boulders | TON | \$250.00 | 50 | \$12,500.00 |
| Stone | CY | \$40.00 | 1,000 | \$40,000.00 |
| Asphalt Path | SY | \$10.00 | 4,600 | \$46,000.00 |
| Educational Signage | Allow | \$3,000.00 | | \$3,000.00 |
| Natural Areas Fencing | LF | \$5.00 | 1,500 | \$7,500.00 |
| Management Features for Closure During Flood Events (ie. Gates) | Allow | \$10,000.00 | | \$10,000.00 |
| Subtotal Dry Detention Area | | | | \$228,327.50 |
| 1% for Environmental Art | | | | |
| Subtotal Environmental Art | | | | \$4,317.0 |
| Sub Total | | | | \$436,095 |
| | Design and Engineering | | 18% | \$78,497 |
| | Contractor Overhead | | 6% | \$26,166 |
| | Overhead and Profit | | 5% | \$21,805 |
| | Contingency | | 10% | \$43,610 |
| Total Estimate of Site Construction | | | | \$527,675.00 |

TIMELINE



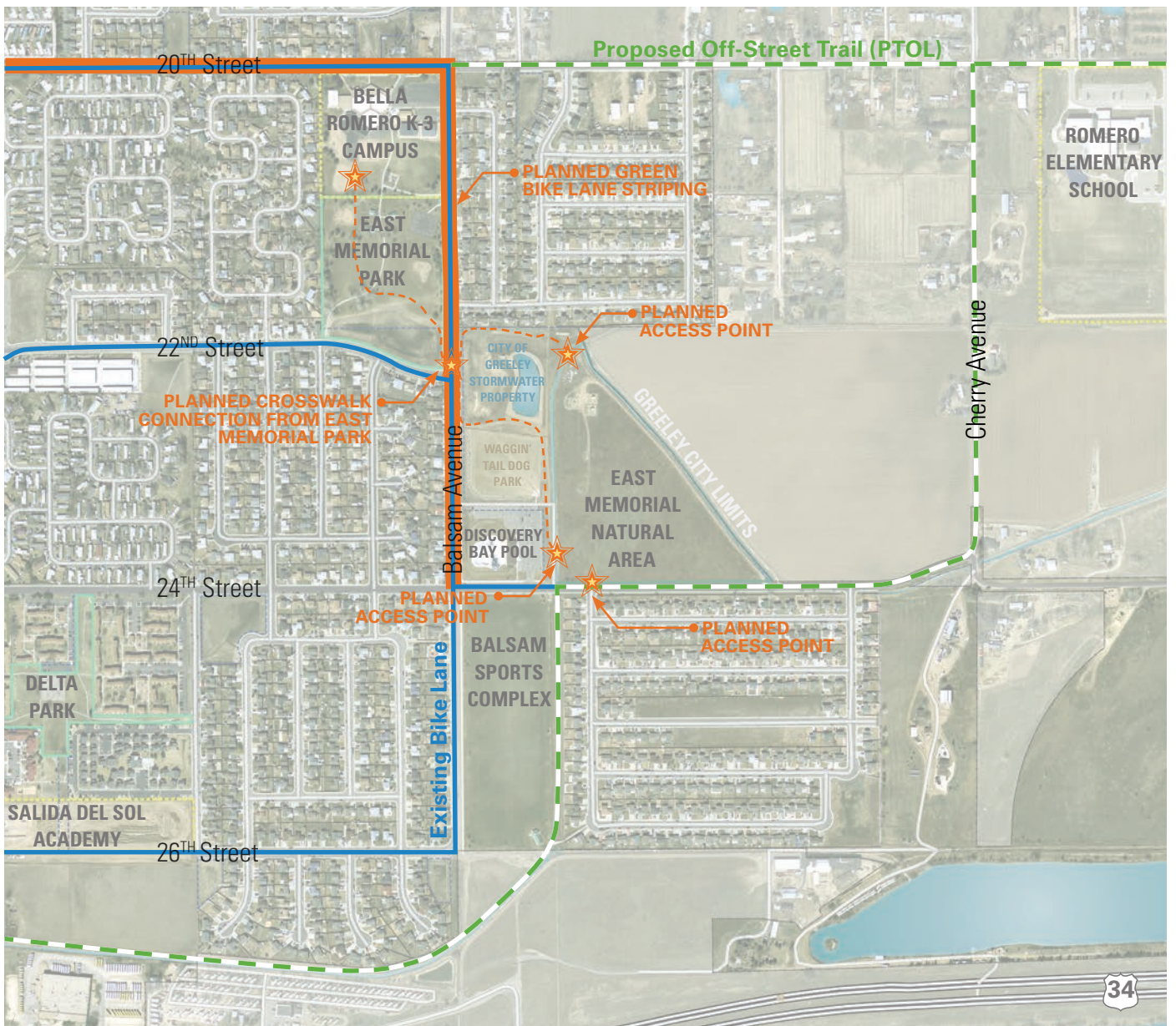
EAST MEMORIAL NEIGHBORHOOD BICYCLE AND PEDESTRIAN CONNECTIONS IMPROVEMENTS

The City of Greeley intends to paint existing bike lanes green on 20th Street from 1st Avenue to Balsam Avenue and along Balsam Avenue from 20th Street to 24th Street. This existing bike lane serves approximately 100 user per day. Striping this segment of the bike lane green will increase visibility and better alert drivers to the bike lanes surrounding the school. The City's recent Parks, Trails and Open Lands Plan has also identified corridors in the neighborhood for potential off-street trails. These potential improvements, while not funded by this Initiative, could enhance connectivity from nearby schools and neighborhoods to East Memorial Park and Natural Area.

Additionally, paths planned from Bella Romero K-3 Campus through East Memorial Park and an enhanced pedestrian crosswalk across Balsam Avenue would provide safe access to the Natural Area. A system of paths through City of Greeley Stormwater Property and the Waggin' Tail Dog Park would increase accessibility of the Natural Area, which is currently only available on the Property's southern edge. Defined access points would welcome neighboring residents and youth to the Natural Area and its adventurous amenities.

Existing points of access to East Memorial Natural Area are limited to the southern edge of the property.

MAP 5 PLANNED CONNECTION IMPROVEMENTS TO EAST MEMORIAL PARK & NATURAL AREA



PROGRAMS AND PATHWAYS

BARRIERS TO PARTICIPATION

One of the biggest challenges youth voiced in participatory programs and experiences was a lack of awareness or understanding of what opportunities exist to get out in nature and what they can do once they're there. This sentiment was echoed by the program providers in the focus group as a barrier to encouraging youth to spend more time in nature. If the awareness of nature activities in Greeley and the programs offered to build skills is not there, then it can be difficult to motivate youth and their families to get outdoors. Transportation required for youth to participate in programs and transportation means for program providers to bring participants to outdoor experiences compounds the problem of awareness.

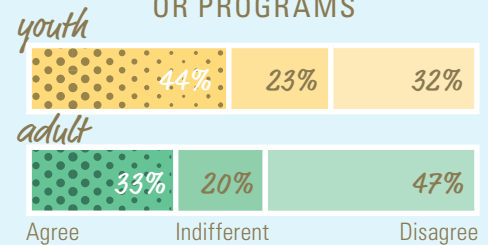
Program providers in the region feel trust in programs is key to increasing awareness of opportunities to get outdoors and overcoming the comfort level missing with youth that have not had experiences outdoors. Collective efforts from program providers and marketing efforts could address parents' questions and concerns and establish trust in programming. Marketing is currently a challenge due to the multiple languages that are spoken in Greeley homes. Reaching target participants and populations is time-consuming and costly.

Programs and activities that interest youth and their parents and have the potential increase attendance, if offered, were identified by responses to the community survey. Youth provided further input on the nature activities they want to do and the outdoor skills they want to learn in the classroom listening sessions. The most likely attended program for both groups are outdoor recreation programs (such as fishing, archery, boating, etc.). Youth also reported that they would like to attend day camps (41%) and festivals that have a focus on nature (41%), go on guided hikes (38%) and participate in organized outdoor competitions (36%). Adults believe the youth in their household would like to attend festivals that have a focus on nature (49%), go on guided hikes (37%), attend nature focused day camps (35%) and participate in nature clubs for their family or neighborhood (34%).

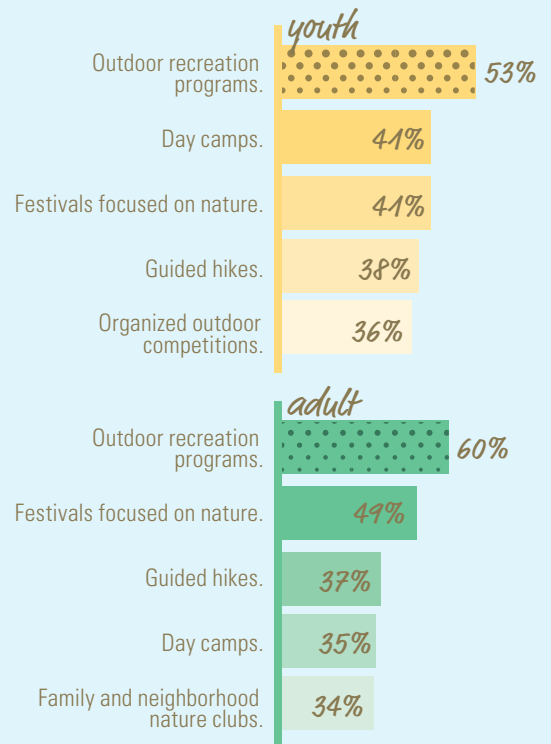
SCAFFOLDING

The suite of programs recommended to be created or improved as part of the Inspire Initiative endeavor to address the barriers identified to participating in programs or selecting career paths in the fields related to the outdoors. The intention behind the experiences described on the following pages is to structure programs to serve youth and families from diverse backgrounds, encourage a progression of unique experiences to draw youth of all ages and abilities and provide meaningful interactions with nature. Enhancements to programming ultimately hope to build the foundation for the next generation of environmental stewards and chart a course for career pathways.

I DON'T KNOW HOW TO FIND OUT ABOUT NATURAL PLACES TO VISIT OR PROGRAMS



TOP 5 PROGRAMS YOUTH AND THEIR HOUSEHOLD ARE LIKELY TO ATTEND



What activities in nature or outdoor skills would you want to do or learn?



TABLE 3**SCAFFOLDED EXPERIENCES**

- **Outdoor Adventure and Environmental Learning**

Target Age Groups: 5 years to Adult
Duration: 2018 to 2020

Opportunities:
 Nature Mobile
 FISH Classes
 Colorado Youth Outdoors partnerships
 Sky Corral Day Visit
 Sky Corral Camping

- **Cycle 4 Change**

Target Age Groups: 5 years to Adult
Duration: 2018 to 2020

Opportunities:
 Bike Safety Classes
 Bike Rodeo
 Build A Bike
 Family Bike Trips

- **Growing Grounds**

Target Age Groups: 5 years to Adult
Duration: 2018 to 2020

Opportunities:
 School Gardening and Nutrition
 Cooking Classes
 Community Gardening

- **Career Opportunities in Nature (COIN)**

Target Age Groups: 6TH to College
Duration: 2018 to 2020

Opportunities:
 Career Fair
 COIN Guest Speakers
 COIN Internships
 College Goal Sunday

Get Outdoors Greeley Initiative will support programs including: the Nature Mobile, a fully equipped mobile units that bring outdoor experiences and nature opportunities directly to the neighborhood's youth and their families; Cycle 4 Change, an engaging and hands-on comprehensive bicycle program; and, the Growing Grounds, an outdoor gardening and cooking program that offer classes in healthy food and nutrition and raised bed vegetable gardening.

The intent of the Get Outdoor Greeley Initiative is to support Greeley-Evans School District 6 in enhancing their current Career Pathways program through Career Opportunities in Nature (COIN). The District has a robust Career Pathways program that provides career fairs, guest speakers, and internship opportunities to help middle school and high school students plan for their future. The Career Pathways program provides students with exposure to a wide variety of career fields including advanced manufacturing, business, health care, and engineering. However, there is a gap in the District's Career Pathways program regarding opportunities for students to learn about outdoor career fields. The City of Greeley's Achieving Community Excellence (ACE) program has been a major supporter of the District's Career Pathways program by assisting in finding business partners to be guest speakers in schools and to host high school interns. COIN will further support the District build a stronger work-based learning continuum specifically in outdoor career fields through attracting businesses that offer careers in nature and the great outdoors to participate in the career fair, as guest speakers, and as hosts for internships.

The progression of scaffolded experiences will help a diverse group of youth of all ages and abilities to participate in an intentional framework of meaningful interactions with nature. The Get Outdoors Greeley Initiative provides a suite of Programs and Pathways that deliver a wide variety of opportunities intentionally designed to match the identified barriers and motivators for getting youth outdoors. The menu is designed for differing age groups and skill sets to access the opportunities at numerous levels. As time progresses and youth and their families become more confident in their skills through local hiking, biking, and camping experiences, more advanced outdoor opportunities will be available to participants at various partnering organizations throughout Northern Colorado. Table 3 summarizes the scaffolded experiences for underserved youth of all ages and their families to participate in unique outdoor experiences that progress over time.

EXPERIENCES

OUTDOOR ADVENTURE AND ENVIRONMENTAL LEARNING

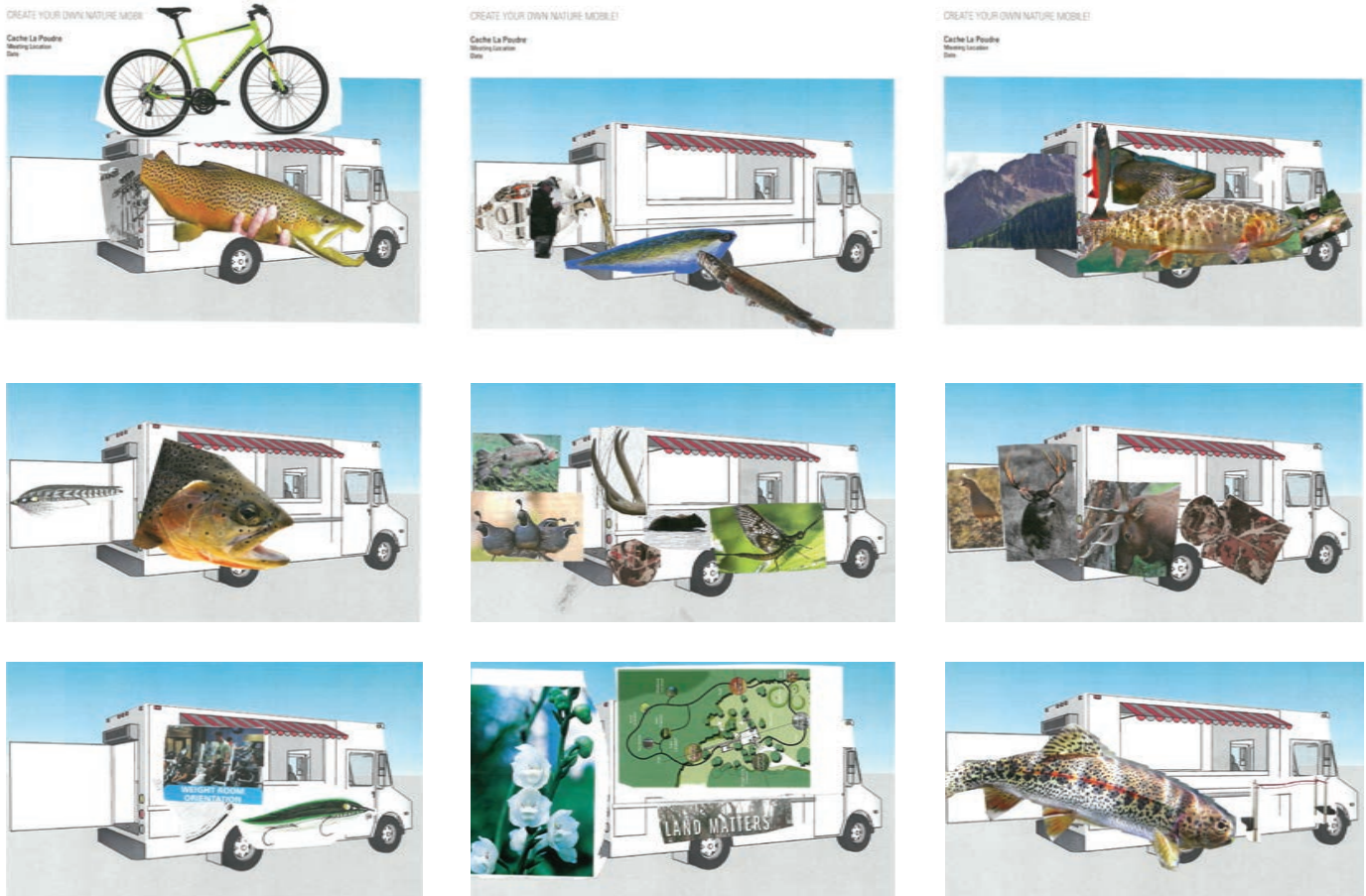
Outdoor adventure and environmental learning programming will bring a variety of engaging programs strategically aligned with the ideas that emerged from youth engagement. Design Reviews were held at Franklin Middle School and Northridge High School to identify the types of activities and programs outdoor adventure and environmental learning might support. A meeting was held at the Poudre Learning Center to discuss ways regional program providers might support and/or utilize the outdoor and environmental programming to encourage youth connections to the outdoors. Participants in all agreed, more awareness of opportunities in Greeley for youth and their families to engage in nature is needed.

Nature Mobile

The 'Nature Mobile' is one outdoor adventure and environmental learning program identified to bring natural experiences to the youth of Greeley. Support for the 'Nature Mobile' was voiced in the youth design reviews and each of the listening sessions. Educators felt there was great potential to coordinate the 'Nature Mobile' with the District curriculum, scheduling visits to schools with classroom learning objectives to expose youth to nature. Program providers found the idea of a mobile experience would help establish awareness that nature is accessible. Discussions in the Career Pathways focus group resounded the sentiment that Greeley needs to build an understanding of the access points available in Greeley to get outdoors and the 'Nature Mobile' could provide an access point, exposing youth and their families to nature activities, programs and career pathways.

Students feedback directed the activities and programs the 'Nature Mobile' would support. Youth identified the coolest features parks or natural areas to be water and lakes, fields and trees to explore and wildlife to view. The activities in nature they would like to try and outdoor skills they would like to build include archery, hunting, fishing, hiking, general survival skills, swimming and water based recreation. Students cut and pasted images out of outdoor magazines to fill the Nature Mobile with desired gear.

What would the NATURE MOBILE be filled with?



Trailers equipped with a variety of nature-based programs such as in archery, astronomy, camping, fishing, and watercraft will be able to bring fun and engaging outdoor activities to youth and families. Mobile programs will be taught by volunteer community leaders, including parents from the east Greeley area that have been trained by Colorado Youth Outdoors and PLC staff. Through the Get Outdoors Greeley Initiative, Nature Mobiles will help youth and their families experience a well-rounded variety of nature-based, outdoor adventure programs at home, in clubs and community centers, at school, and in local and regional parks through various partnering agencies.

Nature Mobile programming will cover not only the development of specific skills, but also include associated nature components. For example, fishing is more than simply putting a line in the water. A really successful fisherman learns about what certain fish eat and the habitat they live in. In addition, there is also a whole science behind maintaining healthy fisheries. To really teach youth how to fish, the skills of observation, interpretation, and use of equipment and safety should also be included. The Nature Mobile program will use teachable moments as it creates memorable experiences for youth and families to enjoy nature, develop stewardship ethics, and build relationships.

Currently, small scale mobile programming is conducted via personal vehicles that transport inventory to parks, schools, and youth recreation centers. While very successful, this small scale approach is limiting. With the expanded size and scope of future inventory and offerings, mobile units will be critical to adequately facilitate the increased volume of programming that is planned for East Memorial youth and families. The new educational and recreational outdoor mobile education program will also be able to serve youth and families throughout Greeley.

Initially the Nature Mobile units will provide programming in east Greeley neighborhood locations including the three schools, Boys and Girls Club, parks and natural area. As participants grow in confidence and experience, next level experiences will include trips to partnering organizations' sites outside the east Greeley neighborhood. These include Colorado Youth Outdoors, Poudre Learning Center, Sky Corral Ranch and Rocky Mountain National Park. While Nature Mobile will initially provide programs in the east Greeley neighborhood, over time the mobile units will also be able to visit other parks and schools throughout Greeley to increase the scope of the program's impact.

FISH Classes

As part of the initial GOCO planning grant, the Poudre Learning Center developed and piloted the Families Investigating Science at Home (FISH) program. FISH workshops support families spending quality time together and learning science through nature. A leading professional in an area of science or nature guides hands-on family workshops. Workshops provide short, hands-on learning experiences where participants spend time having fun and exploring nature together as a family. Workshop titles include Fly Fishing, Nature Photography, Amphibians and the Environment, Science Fair Projects For the Whole Family, Backyard Naturalist, Mother Daughter Science, and Family Camping.

The FISH program also provides professional educators with dynamic lessons from hand-picked leading naturalists, artists, and scientists to engage students and have fun! Participating educators learn how to incorporate nature-based lessons that bring real-world applications to classroom science curriculum.

Colorado Youth Outdoors Venture and Training Programs

Colorado Youth Outdoors Core Programming helps families with middle and high school students build and strengthen their relationships while learning lifelong recreation skills and intentional relationship building skills. Venture Colorado Youth Outdoors programming and curriculum was developed as a result of the GOCO planning grant. Programming is held in the fall and spring and runs in three week sessions. A Venture focuses on one traditional outdoor recreation activity and is a minimum of two hours in length. Activities include fly fishing, spin fishing, fly tying, archery, shooting sports, camping and survival, and orienteering. The programs are run in the evening, usually between 5:30 and 7:30, and require that a parent or significant adult participate with each youth attending. Colorado Youth Outdoors also provides trained mentors to work with a parent that has multiple students attending or when a parent is unable to attend regularly.

Tracking and evaluation.

Each program will be monitored by the agency providing the activity and tracked using a standardized reporting form. Data collected will include age and number of participants and activity content. Through surveys, participants will be asked to provide information on their satisfaction with the experience, staff accommodation, appropriateness of facility, and comments on program value. Registration for Nature Mobile FISH Classes, Colorado Youth Outdoors Venture programming and all training provided will be tracked and reported by the Get Outdoors Greeley program coordinator. The quality and impact of the programs will be evaluated annually through the following methods:

- Number of youth and families that participate in activities in east Greeley and the greater Greeley area.
- How many times each of the mobile units are utilized.
- How many people complete the training classes and how many then volunteer to work with the program
- How many participants attend activities outside the east Greeley neighborhood.
- Results of the surveys provided to participants at each program event.

THE DETAILS : NATURE MOBILE



Program

Pathway

Feasibility

Medium

Existing Service

0
of Youth Currently Served by This Program

Cost

\$\$\$
\$525,000

Backyard



Great Outdoors

People to be Served

Number
2,705 ±
Youth Under 18 in East Memorial

Groups

Elementary to High School Aged Youth Families Neighborhoods

Timeline

Year One through Year Three

Partners

Colorado Youth Outdoors
Poudre Learning Center
Sky Corral Ranch
Boys & Girls Club

CYCLE 4 CHANGE

In order to encourage local youth to spend time outdoors, they need safe routes to connect with parks and natural places, enhanced programs that connect youth and families to nature, and transportation to natural places. Studies show that parents grant their children a greater degree of freedom to travel from home between the ages of ten through fourteen. These freedoms typically coincide with the move from elementary to middle school. The extensive road, and specifically on-the-bicycle lessons offered by this program are designed to increase bike ridership, physical activity, and safe and predictable riding among youth. Bicycles will be seen as a source of transportation allowing youth to reach trails, parks and natural places, thus specifically addressing identified needs. Learning safe bicycling and pedestrian skills will increase the level of confidence for safe travel among young people as well as increase physical activity for healthier lifestyle.

Program goals and offerings.

Boys & Girls Clubs of Weld County has been serving youth ages 6-18 for the past 53 years. Founded in 1964 as a charter organization of the Boys & Girls Clubs of America, this organization has had a consistent and dedicated mission to serve Weld County's Youth. The mission of the Boys & Girls Clubs of Weld County is, *"To inspire and enable all young people, especially those who need us most, to reach their full potential as productive, responsible, and caring citizens."* The work of this organization empowers children and teens to do just that. Boys & Girls Clubs of Weld County is the premier nonprofit in Weld County that offers comprehensive youth development after-school and summer programs in our Clubhouses as well as school and community based sites. This organization now serves up to 500 kids each day, with over 2,000 registered members in 6 locations throughout Weld County including Greeley, Milliken, Johnstown, Fort Lupton, and Galeton.

The intent of the Cycle 4 Change project is to empower Boys & Girls Club youth to explore the outdoors through enhanced mobility that comes from bicycling in their neighborhood and the greater Greeley area. Youth participating in Cycle 4 Change will receive the Walk! Bike! Fun! Pedestrian and Bicycle Safety Curriculum that was developed by the Bicycle Alliance of Minnesota. This two-part curriculum will help children ages six to thirteen to develop life-long skills through fun classroom activities and on-foot and on-bike skills practice. Students will learn traffic rules and regulations, the potential hazards to travelling, and handling skills needed to bike and walk effectively, appropriately and safely through their neighborhood and greater community. Learning safe pedestrian and bicycling skills will increase the level of confidence for safe travel among young people as well as increase physical activity. Walking and bicycling is an excellent source of exercise for an increasingly unhealthy, inactive, and overweight youth population. Promoting walking and cycling as a means of transportation will develop a population of more active and healthy youth and later adults.

The following improvements would encourage Boys and Girls Youth to spend more time in outdoors/nature:

Trails surrounded by nature

62%

Provide new nature parks

60%

Paths connecting parks and natural places

58%

Add natural areas to existing parks

54%

Enhance programs that connect children/families to nature

47%

Provide transportation to natural places

44%

Introduce natural areas on school yards

44%

Foundational knowledge will be utilized into skill-building and experiential learning. Pedestrian safety will be reinforced by taking youth on neighborhood walks. Bike rodeos will be offered so that youth can practice safe bicycling under controlled conditions before venturing out onto neighborhood streets with bike field trips to parks, the splash park and soccer fields. Bicycle maintenance will be taught so that youth are able to fix flat tires, make simple adjustments to brakes and derailleurs, and provide preventive maintenance to chain, cogs and derailleurs. As youth gain more experience, longer bike field trips will be offered, such as trips on the Poudre River Trail that can take them to Poudre Learning Center or other City natural areas. The bicycle fleets will also be incorporated into the daytime and overnight camping trips to further deepen experiences with the outdoors/nature that will be planned in years two and three.

Interested Boys & Girls Club youth can also participate in a build-a-bike program through Turn Around Bikes. Reference the Turn Around Bikes Programs & Pathway section for more details. Parents of Boys & Girls Club youth will be encouraged to participate in as many activities as possible, but it is recognized that many parents work full-time or have multiple jobs making participation during the day difficult. To encourage participation of the families of Boys & Girls Club youth, activities such as Family Bike Nights that will be offered in the east Greeley area at least one time per month during the summer. As youth complete the bicycle lessons and gain more experience, longer bike field trips will be planned for youth and their families. For example, trips on the Poudre River Trail that will take youth to Poudre Learning Center, local natural areas, lakes, and parks will be scheduled at times that are typically convenient for parent participation.

**THE DETAILS :
CYCLE 4 CHANGE**

Backyard



Great Outdoors

 Program

 Pathway

People to be Served

Number

2,705 ±

Youth Under 18 in East Memorial

Groups



Elementary to High School Aged Youth



Families

Existing Service

500/day

of Youth Currently Served by B&G Club

Feasibility



High

Cost



\$38,000

Partners

High school interns

City of Greeley League Certified Instructors

Weld County Department of Public Health Environment

Timeline



Year One through Year Three

Ultimately, the goals of the Cycle 4 Change program are to increase the number of youth walking or biking to the Boys & Girls Club, parks and natural areas; to increase safety of youth pedestrians and bicyclists; and to improve the lives of youth by enhancing health, learning capacity and independence. Funds acquired through this initiative will be used to purchase bike fleets, storage, fix-it stations and materials and supplies to support the Cycle 4 Change program. Funds will also support summer student interns at the Jerry Pawl Boys & Girls Club through the Careers in the Outdoors program. Lastly, funds will be utilized to provide training for the Boys & Girls Club staff members to provide safe pedestrian and bicycle instruction.

Tracking and evaluation.

As part of their normal procedures, the Boys & Girls Club records daily attendance. Through this record keeping process, the number of Boys & Girls Club members that participate in all Cycle 4 Change programming will be tracked. In addition, participation by specific activity will be tracked and will represent a duplicated count since the same child will receive multiple program touches deepening their learning and experience level. The Boys & Girls Club will hire a high school student intern from the Get Outdoors Greeley Initiative career pathways program: "Career Opportunities in Nature." The student will be required to track their hours for payroll and to tabulate required program evaluation numbers for the Boys & Girls Club bike project.

The project will track with number of Boys & Girls Club members that receive the Pedestrian and Bicycle Safety education curriculum lessons. The number of youth participating in bike rodeos, walk/bike field trips, and half-day or overnight nights will be kept and reported. Quality will be, in part, maintained by the selection of an evidence-based curriculum and building bicycle safety education knowledge and skills among Boys & Girls Club staff members. They will receive initial training and on-going support from League of American Bicyclist (LAB) – League Certified Instructors (LCI), as

well as one staff member being paid to be certified as an LCI.

Turn Around Bikes Program Expansion

Program support for Cycle 4 Change will fund the Turn Around Bikes program through collection and refurbishment of 70 bikes. The bikes will be refurbished by teens participating in the Cycle 4 Change Program. Turn Around Bikes will also provide an internship opportunity through the Inspire Initiatives "Careers Opportunities in Nature" pathways program. Turn Around Bikes collects gently used bicycle donations and financial contributions to host weekly Repair & Maintenance Workshops. The organization teaches teens how to refurbish bicycles at these sessions, then donates the completed bike to an individual, family or child in Weld County who is need of reliable transportation. Turn Around Bikes is dedicated to donating bicycles to individuals, families, and children in Weld County to help alleviate the stresses of everyday transportation needs.

The number of Boys & Girls Club members referred to Turn Around Bikes and participating in Build-A-Bike (part of Cycle 4 Change program) will be tracked and reported. The number of completed Build-A-Bikes will be documented. Turn Around Bikes will hire a high school student intern through the Inspire Initiatives "Careers Opportunities in Nature" pathways program.. The student will be required to track their hours for payroll. The number of Build-A-Bikes completed will serve as the evaluation indicator as well as an increase in the number of teens participating in the weekly maintenance workshops. Qualitative stories will be collected from Build-A-Bike teens to encourage other teens to participate in broader bicycling efforts.

GROWING GROUNDS

A great need exists in the underserved east Greeley neighborhood for access to fresh, healthy, and affordable food. Research has shown that students are more accepting and willing to choose and consume fresh fruits and vegetables when they are directly involved with and exposed to the growing and production of their school meals. Community garden plots offered through the Growing Grounds will provide a sense of ownership and empowerment, a sense of community, access to garden space and a healthy outdoor activity, and a supply of fresh, affordable produce. The school gardens and the orchard that will be planted along the border of East Memorial Park and Bella Romero K-3 campus will supply fresh produce to Greeley-Evans School District 6's Nutrition Service Department to support the national School Lunch Program. Fresh fruit is often one of the most expensive components of school meals. The proximity of the fresh fruit will help offset costs and increase meal participation and annual harvests will further acceptance of fresh fruits and vegetables.

Program goals and offerings.

Growing Grounds will provide K-8 students an opportunity to actively participate and contribute to growing food for the District's school lunch program. Specific activities include planting, watering, and maintenance for the school garden; hands-on nutrition and cooking education and experiential learning; and taste-tests of fresh fruits and vegetables to encourage consumption and increase knowledge and acceptance.

The Growing Grounds program will supply the Nutrition Services Department with locally grown fresh fruits and vegetables for the National School Lunch Program through their internal program called "Garden to Cafeteria" where food grown in school gardens is purchased by the Nutrition Services Department and served on the school's salad bar or incorporated into the main entree or side dish. Families will be invited to participate in outdoor cooking classes and the community garden plots offered through the Growing Grounds program. Participants for the cooking classes and will be solicited by the District 6 Nutrition Services Department through the Bella Romero K-3 and 4-8 campuses and Salida del Sol Academy. East Greeley community members interested in growing a garden in the Growing Grounds program will be supported by the City of Greeley's existing community garden program through the Neighborhood Resource Office.

One of the primary goals of the program is to help youth and families improve health through increased consumption of fruits and vegetables, especially those with social and economic factors that may limit their current use of produce. A secondary goal is to improve students' academic achievement through experiential learning opportunities.

THE DETAILS : GROWING GROUNDS



 Program

 Pathway

Timeline



Year One through
Year Three

Feasibility

 Medium

COST


\$30,000

Existing Service

0
of Youth Currently
Served by This Program

Partners

Greeley-Evans School
District 6 Nutrition
Services Dept.


Bella Romero k-3
Campus


People to be Served


Number

7,200 ±

Groups

 Elementary to High School
Aged Youth

 Families

 Neighborhoods

Backyard



Great Outdoors

Tracking and evaluation.

Greeley-Evan School District 6 and the City of Greeley will track participation in the community gardening aspect of Growing Grounds by the number of community garden plots utilized by local families and through surveys of those users to determine the various family impacts of garden access. Questions regarding the amount of produce grown, the number of meals prepared, and changes in family eating habits are examples of data that will be collected. The quality and impact of Growing Grounds will be evaluated annually through the following methods:

- The number of teachers, classes, and students involved in and utilizing the space.
- How many hours each student, class, and teacher spends in the space
- How many field trips are taken to the space
- How many pounds of produce are grown.
- Meal participation
- General knowledge and acceptance of fresh fruits and vegetables among the student population.

CAREER OPPORTUNITIES IN NATURE (COIN)

Middle school students (grades 6-8) in Greeley-Evans School District 6 recently took either a career interest survey or career cluster finder. Of the 1,460 students that participated, 655 listed the “Agriculture, Food and Natural Resource” pathway in their top three career interests. However, the existing Career Explore program has had a lack of internship opportunities available in the agriculture and natural resource fields. Through the Career Opportunities in Nature (COIN) pathways program, the Cache la Poudre Inspire Initiative will work with the Career Explore organizers to seek out and secure more nature-oriented internships. There are great opportunities given the strong agricultural and energy industries in this area. One barrier to the existing program has been recruiting local business participation due to the costs of the internships. Having funds available to support paid internships will reduce this barrier. To recruit business participation, the COIN program will host an informational meeting for prospective providers to learn about the benefits of the internship program.

Program goals and offerings.

The Get Outdoors Greeley Initiative will align with the District 6 Career Pathway program to increase students’ exposure to nature and outdoor careers that are lacking in the current District Career Pathways program. The Career Opportunities in Nature pathways program will build on Greeley’s very successful Career Explore internship program by increasing the number of internship opportunities with a specific focus on “nature” related careers. The Career Explore program is a part of the Mayor’s Workforce Initiative, in partnership with Greeley-Evans School District 6 and the Achieving Community Excellence program, that seeks to increase postsecondary and workforce readiness skills through 150-180 hours of paid internships for students during the summer following their junior year of high school.

The Career Explore initiative provides the opportunity to merge classroom learning with hands-on work experiences. The

program started in 2014 with 11 interns, growing to 55 in 2015, 85 in 2016, and 110 in 2017. However, only about 10 of those internships each of the past three years have been related to natural resources. In addition to the high school internships, several of the coalition partners have provided internships to University of Northern Colorado (UNC) students primarily through the Environmental Studies or Geography programs.

The Get Outdoors Greeley Initiative proposes to create five additional internships in 2018 and 10 internships in 2019 and 2020 for a total of 25 paid internships over the three years of the grant. The internships will be made available to both District 6, UNC and Aims Community College students. Internships will typically be 150-180 hours and pay \$10.00 per hour. Each year, District 6 holds a career fair for 8th grade students. Over 1,400 students attend annually. While several of the Coalition partners have participated in past fairs, as part of the COIN program, the Coalition will organize a special new section for "Natural Resources Careers" that will bring together multiple participants to provide information on nature-oriented careers. Plans include career information on water resources, wildlife management, land management, energy development, geographic information systems, park planning/landscape architecture, agricultural production, recreation, and other associated careers.

In summary, the goals of the COIN pathway include engaging adolescents with the community, exposing adolescents to nature-oriented career opportunities, providing ways for adolescents to gain marketable career experience and post-secondary options in outdoor career fields, and develop leadership and outdoor skills. As part of that goal, interns will be used to help deliver, track, and evaluate the programs provided as part of the Get Outdoors Greeley Initiative. Cycle 4 Change, Nature Mobile, and Growing Grounds programs will each host a high school student intern from the Career Pathways summer internship program to help deliver quality outdoor experiences for participants.

Tracking and evaluation.

The interns in the Career Opportunities In Nature pathways program will be tracked by the Get Outdoors Greeley Initiative program coordinator through site visits and interviews. In addition, the District 6 Career Pathways coordinator will collect survey data from businesses and interns as part of their regular protocol. Business and intern participants will be asked to evaluate the experience and provide feedback on the program.

THE DETAILS : CAREER OPPORTUNITIES IN NATURE 'COIN'



Program



Pathway

Partners

Mayor's Workforce Initiative Program

Achieving Excellence Program

Greeley-Evans School District 6, UNC and Aims CC

Feasibility



Medium

Cost



\$58,000

Existing Service

10

of Youth Currently Served by This Program

Timeline



Year One through Year Three

People to be Served

Number

1,425 ±

Groups



High School to College Aged Students



Community Partners and Local Businesses



Program Providers

Backyard



Great Outdoors

City-wide Recommendations

GREELEY'S NATURE GOALS

RECOMMENDATIONS

- Increase Awareness of Opportunities to Experience the Outdoors in Greeley
- Connect Greeley's Youth Population to Nature
- Serve Greeley's Increasingly Diverse Population
- Improve Access to Natural Experiences

FUTURE PROJECT SELECTION

- Selection Criteria



GOCO
GREAT OUTDOORS COLORADO

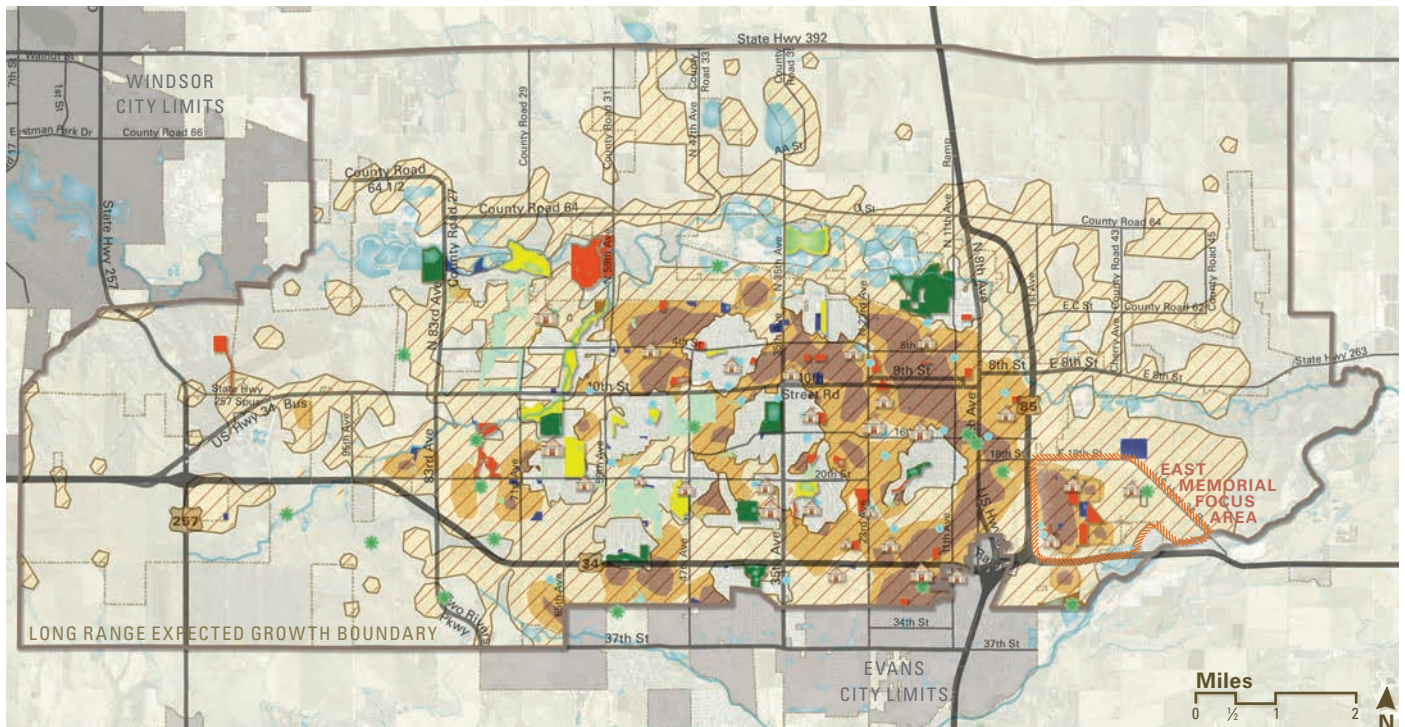
GREELEY'S NATURE GOALS

Through the 2016 Parks, Trails and Open Lands Master Plan, the City of Greeley established realistic and clear recommendations to guide decision-making process over the next 10 years regarding their outdoor experiences. The primary goal of this effort was to ensure the City's parks, trails and open lands meet the needs of a growing community, enhance the quality of life for residents and visitors and add value to all of the ways that Greeley residents recreate and play. Goals of this Plan relevant to the Get Outdoors Greeley Initiative include:




- Capture opportunities to protect open lands and to ensure residents have the chance to enjoy nature; partner for success in being stewards of the city's natural resources and beautiful landscapes; acquire high quality properties in advance of development to connect open lands along river and stream corridors, retain scenic views and support agriculture.
- Add to trail offerings and make them accessible to more people; diversify the types of trails available; connect gaps in the existing trail network and plan for expansion to underserved areas.
- Continue to add new parks to the system to maintain a high level of service and accommodate Greeley's growing population.
- Improve parks with features that meet the needs and desires of residents of all ages, abilities and interests.
- Maintain programs that meet the needs and desires of the community and develop new ones to serve changing community needs, age segments and interests, such as active senior programs, nature and outdoor education for youth and programs that incorporate families.

The Get Outdoors Greeley Initiative supports the goals of the 2016 Parks, Trails and Open Lands Master Plan and provides direction for locations to target new opportunities, improvements and continued maintenance to reduce the City's 'Nature Disadvantaged Areas,' as shown in Map 6. The city-wide recommendations for Greeley's parks, trails and open lands contained in the following pages strive to increase awareness of the system offerings, connect youth to nature, promote equitable access to outdoor opportunities and protect valued natural resources.





MAP 6 GREELEY'S NATURE DISADVANTAGED AREAS



NATURAL EXPERIENCES

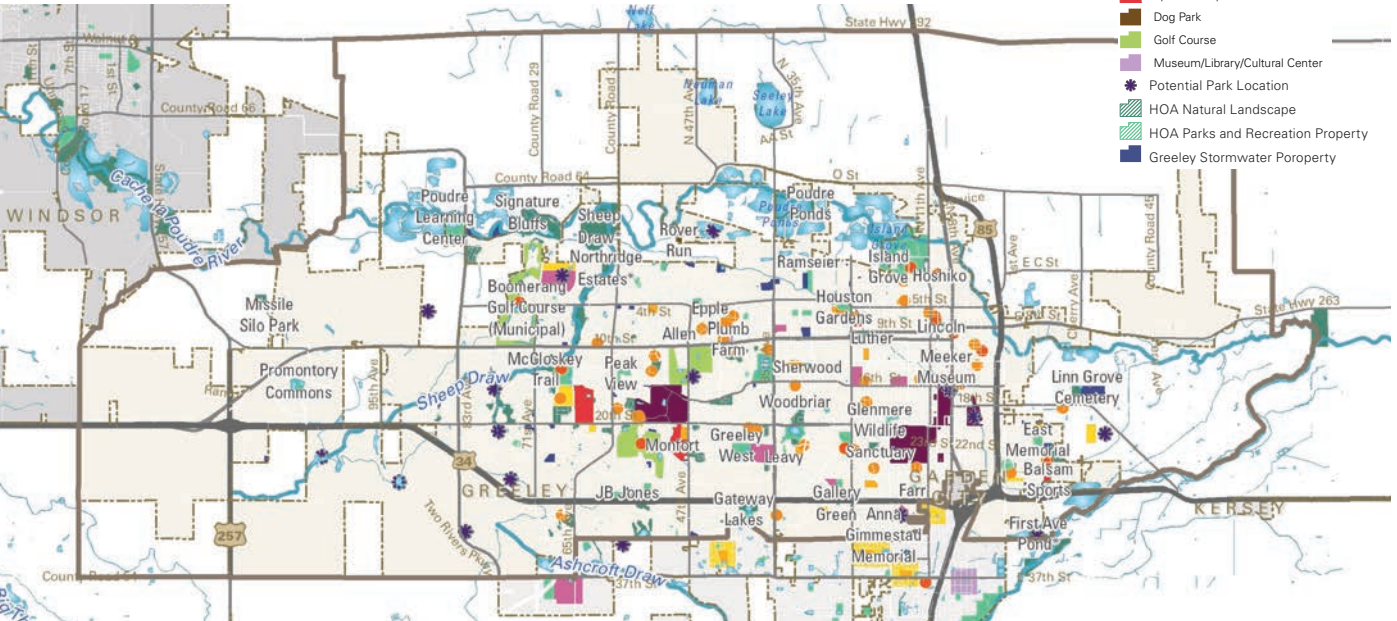
-  'A' Park or Natural Area With a Nature Score **Greater than 15**
-  'B' Park or Natural Area With a Nature Score **Between 10 to 15**
-  'C' Park or Natural Area With a Nature Score **Less than 10**

NATURE DISADVANTAGED AREA

-  Greater than 1/2 mile walking distance from an 'A' or 'B' park or natural area.
- Priority Areas**
-  **HIGH** More than 2,000 Households
-  1,000 to 2,000 Households
-  Fewer than 1,000 Households

RECOMMENDATIONS

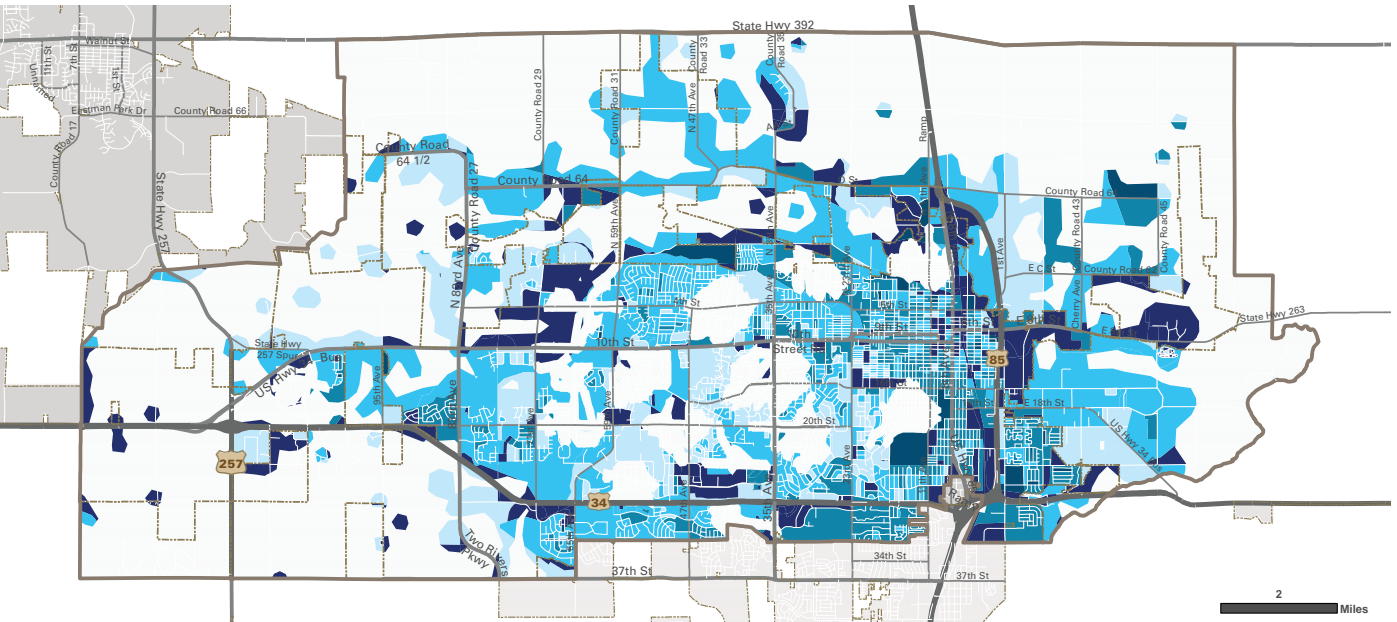
1 INCREASE AWARENESS OF OPPORTUNITIES TO EXPERIENCE THE OUTDOORS IN GREELEY



OPPORTUNITIES

- Elementary School
- K-8th or 12th Grade *Includes an Elementary
- Middle/High School
- College/University
- Preschool or Childcare Facility
- Recreation Centers
- Boys and Girls Club
- Park
- Natural Area (* = No Public Access)
- Sports Complex
- Dog Park
- Golf Course
- Museum/Library/Cultural Center
- ★ Potential Park Location
- HOA Natural Landscape
- HOA Parks and Recreation Property
- Greeley Stormwater Poroperty

2 CONNECT GREELEY'S YOUTH POPULATION TO NATURE



MEDIAN AGE

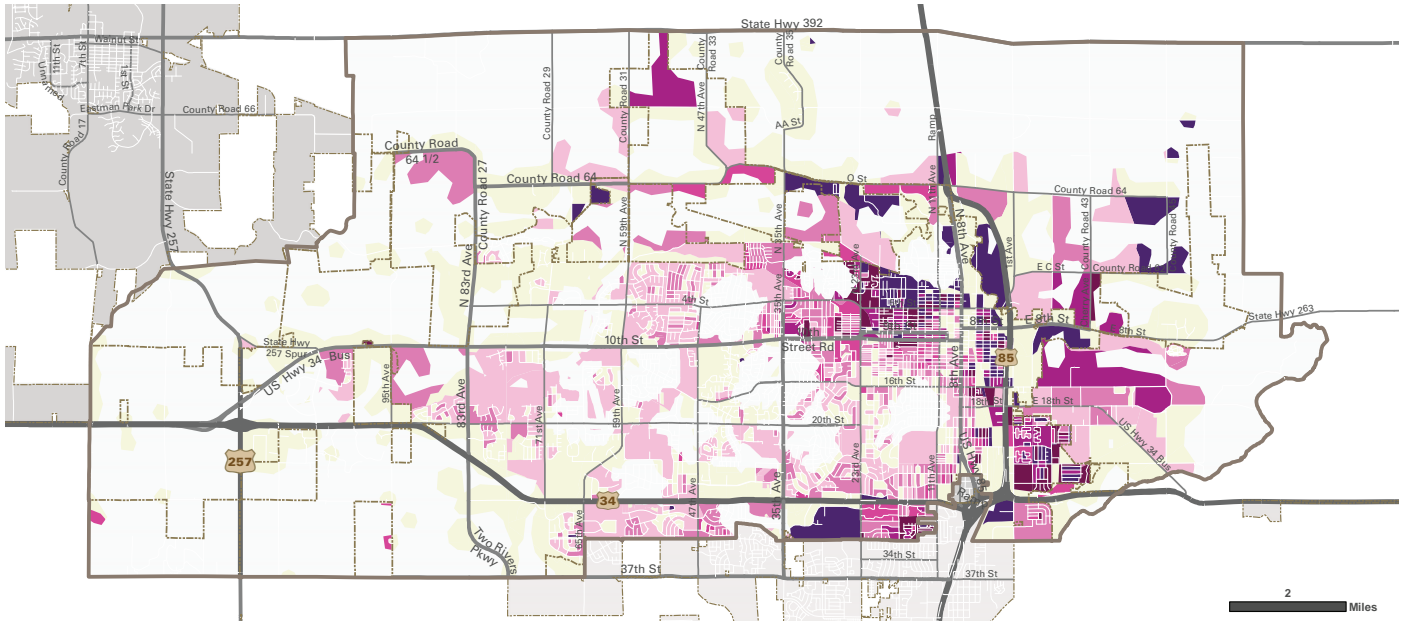
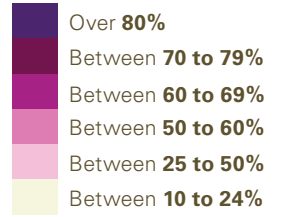
- Under 10
- Between 10 to 19
- Between 20 to 29
- Between 30 to 49
- Over 50

2 Miles

3

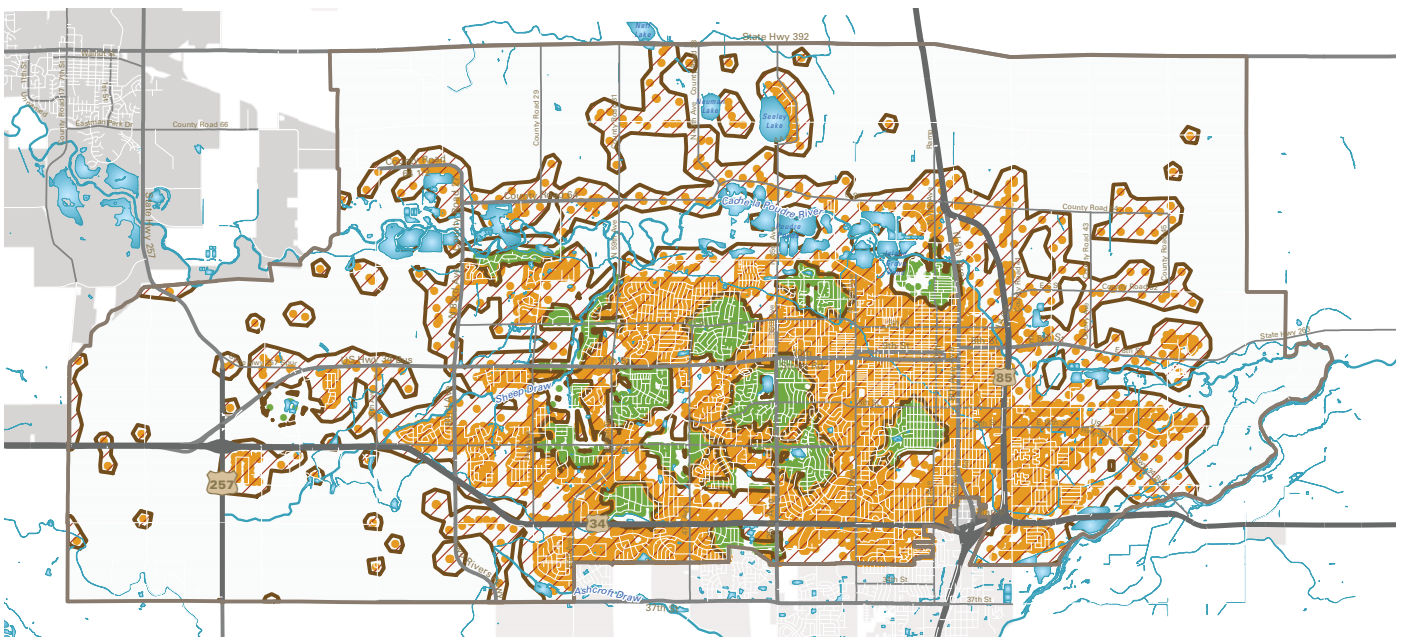
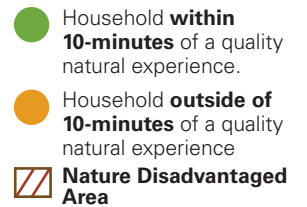
SERVE GREELEY'S INCREASINGLY DIVERSE POPULATION

PERCENT HISPANIC



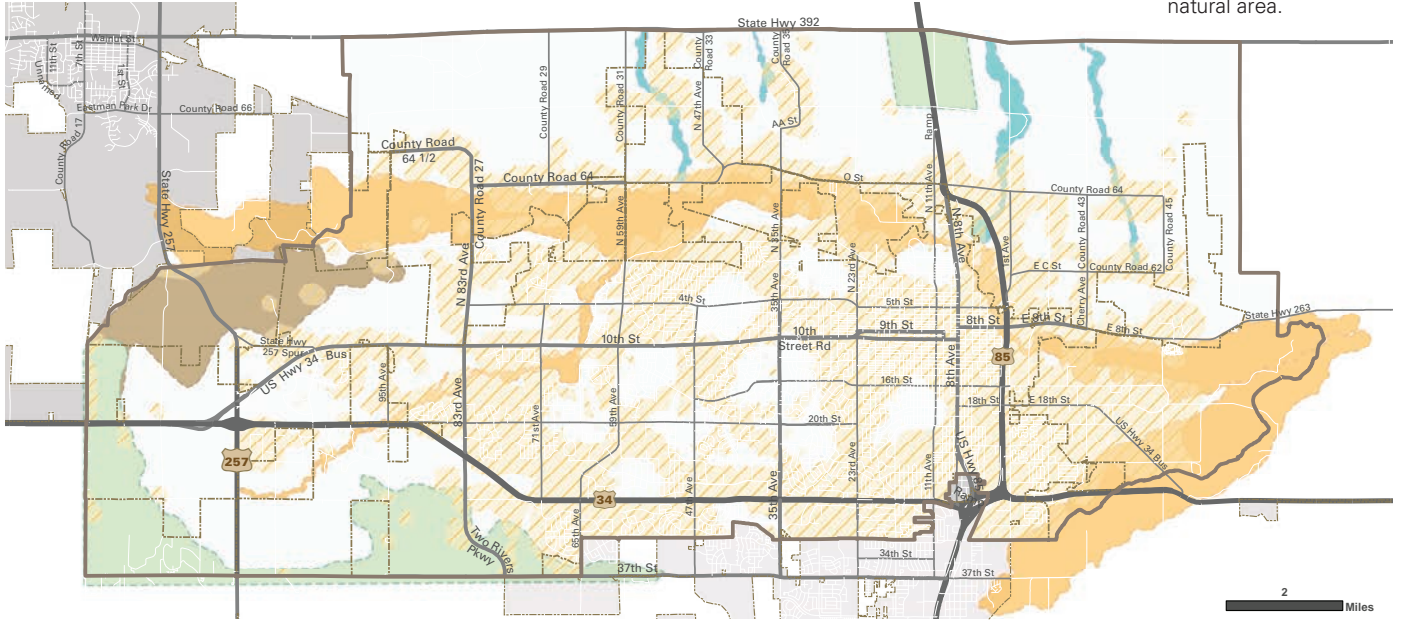
4

IMPROVE HOUSEHOLD ACCESS TO NATURAL EXPERIENCES



ALIGN WITH PTOL LOCATIONS SUITABLE FOR NATURAL AREAS

-  Agricultural Use/
Community Separators
-  River Corridor
-  Bluffs
-  Greater than 1/2 mile
walking distance from
an 'A' or 'B' park or
natural area.



Project Location Selection Criteria Comparison

| Criteria | Location | City of Greeley |
|--|----------|-----------------|
| 1. Target Audience: Serves a neighborhood with considerable need (outdoor equity goal) | | |
| a) Socio-Economic Indicators | | |
| Large population within the area (census info) | | |
| Large youth (0-19 years) population (census info) | | |
| Diverse Population and/or Large Hispanic Concentration (census info) | | |
| Number of students on reduced or free lunch program | | |
| Households with Income Below Poverty Level (%) (census info) | | |
| b) Current nature contact level | | |
| Current acres of parks within the focus area (GIS info) | | |
| "Nature Disadvantaged Area" (GIS info) | | |
| Trail miles (GIS info) | | |
| Residents participated in an outdoor program in the last year (Coalition info) | | |
| Residents participated in backpacking in last 12 months (%) (recreation reports) | | |
| Residents participated in hiking in last 12 months (%) (recreation reports) | | |
| 2. Survey Input: Initial direction received from the public | | |
| a) Serves the population spending the least amount of time in nature and with a high desire to spend more time. | | |
| b) Serves the population least satisfied with the places available to enjoy nature | | |
| c) Project could provide the opportunity to do the outdoor activities people desire and addresses the items people felt needs to be improved | | |
| d) Aligns with areas identified on the map survey question | | |
| 3. Project Feasibility: Likelihood of project completion | | |
| a) Support | | |
| Low public/political controversy | | |
| Motivated partners | | |
| Grassroots engagement likely/ driven by local youth leadership | | |
| b) Alignment | | |
| Location identified in the 2016 Parks, Open Lands, Trails Master Plan | | |
| Opportunity to tie into other initiatives or projects | | |
| High visitor count for the property/park exists | | |
| a) Resources | | |
| High potential for matching fund sources to become committed | | |
| Maintenance costs and caretaking roles considered | | |
| Property ownership/ resources availability | | |
| Cost/benefit (Is the cost reasonable for the potential benefit) | | |
| 4. Project Outcome Assumptions: Biggest impact in connecting youth to nature | | |
| a) Likely to result in a high level of use by target audience | | |
| b) Likely to change the way neighborhood residents' interact with nature | | |
| c) Presents an opportunity to change the way all city residents' interaction with nature | | |
| d) Potential to change hearts and minds (lifestyle change, cultural norms, outdoor stewardship) | | |
| e) Leaves a lasting legacy benefit to the community (timeless and sustainable) | | |
| f) Synergy of places, career pathways and programs | | |
| g) Transferable lessons/opportunities to other Weld County locations | | |
| h) Tells a compelling story likely to garner positive attention | | |



Appendix

A. LITERATURE REVIEW

B. SURVEY RESULTS

C. STAKEHOLDER ENGAGEMENT REPORT

D. NATURE SCORE ANALYSIS REPORT

APPENDIX A. LITERATURE REVIEW

| Author | Title | Date | Location | Publication | Topic Category |
|---|---|------|---------------------|--|---|
| Karsten, L. | It all used to be better? Different generations on continuity and change in urban children's daily use of space. | 2005 | Amsterdam | Children's Geographies, 3(3), 275-290. | Behavior. Changes in children's time allocation, geography, time outdoors, and inequality by class |
| Younan, Diana, Catherine Tuvblad, Lianfa Lie et. Al | Environmental Determinants of Aggression in Adolescents: Role of Urban Neighborhood Greenspace | 2016 | Southern California | Child and Adolescent Psychiatry | Behavior. Neighborhood greenspace association with youth aggressive behaviors. |
| Wells, Nancy M. and Kristi S. Lekies | Nature and Life Course: Pathways from Childhood Nature Experiences to Adult Environmentalism | 2006 | | Children, Youth and Environments 16(1), 1-24 http://www.outdoorfoundation.org/pdf/NatureAndTheLifeCourse.pdf | Behavior. Outdoor activities of youth relationship to adult env. perspectives |
| Schoffman, D.E., Kaczynski, A.T., Forthofer, K., et. Al | Longitudinal associations with changes in outdoor recreation area use for physical activity during a community-based intervention | 2015 | South Carolina | Preventive Medicine | Behavior. Physical Activity Increases and Better Social Factors Are Shown in those Using Outdoor Recreation Areas |
| Pain, R | Paranoid parenting: Rematerializing risk and fear for children | 2006 | England | Social and Cultural Geography, 7, 221-243. | Behavior. Risks and fears for children and public space |

Abstract / Key Findings

There is much speculation about children's changing space-time behavior, yet little is actually known about it. The study reported on here, which was based on oral histories, statistical and archive research, and observations in Amsterdam, compared children's use of space during the 1950s and early 1960s with that of today. The public space of the street used to be a child space, but in two of the three streets studied it has been transformed into an adult space. Conversely, private home space—traditionally the domain of adults—has become a child space. Over time, children's geographies have become more diverse. In addition to the traditional childhood of outdoor children, we distinguish indoor children and children of the backseat generation. These two new types are characterized by a decrease in playing outdoors and an increase in adult supervision. Although this may be regarded as a loss, new children's activities have emerged, outdoors as well as indoors. Contemporary cities can be exciting places for children, but it is clear that inequality by class has become more manifest. Both new geographical childhoods have resulted in a decrease in children's agency, which may have a negative impact on segregation patterns.

Method: Participants (n = 1,287) of the Risk Factors for Antisocial Behavior Study, a multi-ethnic cohort of twins and triplets born in 1990 to 1995 and living in Southern California, were examined in 2000 to 2012 (aged 9–18 years) with repeated assessments of their aggressive behaviors by the parent-reported Child Behavior Checklist. Normalized Difference Vegetation Index (NDVI) derived from satellite imagery was used as a proxy for residential neighborhood greenspace aggregated over various spatiotemporal scales before each assessment. Multilevel mixed-effects models were used to estimate the effects of greenspace on aggressive behaviors, adjusting for within-family/within-individual correlations and other potential confounders. Results: Both short-term (1- to 6-month) and long-term (1- to 3-year) exposures to greenspace within 1,000 meters surrounding residences were associated with reduced aggressive behaviors. The benefit of increasing vegetation over the range (0.12 in NDVI) commonly seen in urban environments was equivalent to approximately 2 to 2.5 years of behavioral maturation. Sociodemographic factors (e.g., age, gender, race/ethnicity, and socioeconomic status) and neighborhood quality did not confound or modify these associations, and the benefits remained after accounting for temperature. Community-based interventions are needed to determine the efficacy of greenspace as a preemptive strategy to reduce aggressive behaviors in urban environments.

This paper examines connections between childhood involvement with the natural environment and adult environmentalism from a life course perspective. Approximately 2,000 adults age 18-90 living in urban areas throughout the United States were interviewed with respect to their childhood nature experiences and their current, adult attitudes and behaviors relating to the environment. Specifically, childhood participation in "wild" nature such as hiking or playing in the woods, camping, and hunting or fishing, as well as participation with "domesticated" nature such as picking flowers or produce, planting trees or seeds, and caring for plants in childhood have a positive relationship to adult environmental attitudes. "Wild nature" participation is also positively associated with environmental behaviors while "domesticated nature" experiences are marginally related to environmental behaviors. People who engaged in these kinds of activities before the age of 11 were more likely as adults to express pro-environment attitudes and to indicate that they engaged in pro-environment behaviors.

Outdoor recreation areas (ORAs) are important resources for physical activity (PA) and health promotion. While past research has identified a correlation between ORA use and increased PA, few studies have examined predictors of long-term changes in park- and trail-based PA in community settings. There was a mean increase in group ORA use from baseline to 6 months. Higher levels of PA, self-efficacy, and social support were associated with ORA use. Longitudinally, increased social support from friends and rating of lighter motorized traffic were associated with increased group ORA use. Additionally, increases PA and more favorable rating of the neighborhood as a place to walk were both associated with decreased group ORA use. Better understanding of how social and the physical environmental impact ORA use for PA can lead to more effective intervention strategies, and warrants future research and promotion efforts.

Both in the social sciences and in popular debates, recent commentaries on fear for children highlight the mismatch between children's and parents' fears and the risk of stranger danger, point to cultural changes to childhood and parenting in explanation. This paper suggests that a materialist approach to fear and risk may be equally helpful to understanding, and of more strategic advantage in promoting social change which benefits children, especially those who have been victims. It is argued that if research is child-centered, grounded in particular places, and explicit about the social stratification of risk, then experience of victimization itself can explain a large part of children's fears. In support, the paper draws on quantitative and qualitative research with 1,069 children aged 10–16 in a deprived area of northeast England. The geographies of child victimization and children's fears are compared, showing that many fears about public space are spatially congruent with experiences of risk. These geographies of risk and fear are gendered and racialized and, in this geographical context, pedophiles and asylum seekers have replaced the 'stranger' in children's accounts of danger. Implications for current public and policy debates are discussed

| | | | | | |
|--|--|------|-------------------|---|--|
| Burdette, H.L., & Whitaker, R.C. | A national study of neighborhood safety, outdoor play, television viewing, and obesity in preschool children | 2005 | | Pediatrics 116 (3); 657-662 http://www.pediatrics.org/cgi/content/full/116/3/657 | Behavior. Safety perceptions |
| Weinstein, N., Balmford, A., DeHaan, C.R., Gladwell, V., Bradbury, R.B., Amano, T. | Seeing Community for the Trees: The Links among Contact with Natural Environments, Community Cohesion, and Crime | 2015 | | BioScience (December 01, 2015) 65 (12): 1141-1153 http://bioscience.oxfordjournals.org/content/65/12/1141.full.pdf+html | Benefit. Nature and community cohesion and crime |
| Chawla, Louise | "Benefits of Nature Contact for Children" | 2015 | Boulder, Colorado | Journal of Planning Literature | Benefits. Compendium of research from 1970s to present showing how nature can contribute to the health and well-being of children. |
| Chawla, Louise & Escalante, Myriam | Student Gains From Place-Based Education | 2007 | Colorado | University of Colorado at Denver and Health Sciences Center | Benefits. Factsheet. Improvement of children's learning abilities in proximity to nature-based classrooms. |
| Wells, N.M. & Evans, G.W | Nearby nature: A buffer of life stress among rural children. | 2003 | | Environment and Behavior, 35(3), 311-330 | Benefits. Children's psychological well-being and vegetation |
| Chawla, Louise & Flanders Cushing, Debra | Benefits of Nature for Children | 2008 | Colorado | University of Colorado at Denver and Health Sciences Center | Benefits. Factsheet. Improvement of children's environmental behavior through connections with nature. |
| Freeman, P.A., & Zabriskie, R.B. | The role of outdoor recreation in family enrichment | 2002 | | Journal of Adventure Education and Outdoor Learning | Benefits. Family enrichment through adventure and structured outdoor recreation |
| Jennifer Wolch, Michael Jerrett, Kim Reynolds, et al | Childhood obesity and proximity to urban parks and recreational resources: A longitudinal cohort study | 2011 | California | Health & Place Journal 17 | Benefits. Proximity to parks and recreation relationship to childhood obesity |
| Robinson, C. W. & Zajicek, J. M. | Growing minds: The effects of a one-year school garden program on six constructs of life skills of elementary school children. | 2005 | | HortTechnology 15(3): 453-457 | Benefits: effects of garden program on life skill development in elementary school children |

This study examined the relationship between parental perception of neighborhood safety and obesity, physical activity, and TV viewing in preschool children. Although this study found no association between outdoor play and neighborhood safety, the authors maintain that increasing children's outdoor play time and making neighborhoods safer for children are 2 objectives that, if achieved, may still have beneficial impacts on children's well-being even if the 2 objectives are unrelated and even if neither improves fitness or reduces obesity.

The first four chapters of a hands-on gardening curriculum (Junior Master Gardener Handbook Level One) were introduced into three East Baton Rouge Parish (Louisiana) elementary schools in the fall semester of 2002 as an informal education program conducted by East Baton Rouge Parish Master Gardener volunteers and Louisiana State University students. The curriculum took place once per week for 2 hours during regular school hours. Science achievement tests, developed at Texas A&M University specifically for the Junior Master Gardener program, were given before and after the students participated in the gardening activities to determine whether or not the activities helped improve achievement scores. Science achievement was significantly different ($P \leq 0.0167$) between the experimental classes' pretest and posttest scores, while no significant difference was found between the pretest and posttest scores of the control classes. No significant difference was found between the experimental and control classes due to treatment. Several variables may have affected the outcome of the study, but the results show once weekly use of gardening activities and hands-on classroom activities help improve science achievement test scores.

This review examines different ways that contact with nature can contribute to the health and well-being of children. Applying the capabilities approach to human development for a broad definition of well-being, it traces research from the 1970s to the present, following shifting research approaches that investigate different dimensions of health. A compelling body of evidence exists that trees and natural areas are essential elements of healthy communities for children. They need to be integrated at multiple scales, from landscaping around homes, schools, and childcare centers, to linked systems of urban trails, greenways, parks, and "rough ground" for children's creative play.

Place-based or environment-based education uses the environment as an integrating context (EIC) across disciplines. It is characterized by exploration of the local community and natural surroundings, hands-on experiences of environmental discovery and problem-solving, interdisciplinary curricula, team teaching, and learning that accommodates students' individual skills and abilities. Research shows that this approach delivers many benefits to students.

Presents a study that examined the effect of vegetation near a residential environment on the impact of stressful life events on children's psychological well-being. Review of literature on children's affinity for the natural environment; Analysis of the significance of the level of vegetation to the psychological health of the children; Results and implications.

Access to nature contributes to the health and well-being of young people, and helps to form a foundation for the development of responsible environmental behavior. This report shows studies that identify some of the benefits that children can gain from connections with nature.

Several studies have indicated a positive correlation between strong, successful families and family participation in outdoor recreational activities. This paper addresses the role of structured outdoor recreation programming in family enrichment. Findings from two studies based in the United States are presented: one on the effect of a one-day family outdoor adventure program on parental and child perceptions of family functioning and the other from qualitative inquiry into the meaning of family residential campaign experiences. Findings from both studies demonstrate that structured outdoor family recreation programming has a strong positive relationship with family strength. Furthermore, findings indicate that the type of outdoor adventure activities being used in the treatment of dysfunctional and maladaptive families is also effective in providing family enrichment experiences.

The objective of the research was to assess how proximity to parks and recreational resources affects the development of childhood obesity through a longitudinal study. When a park is within 500 m of a child's home, there is a significant decrease in BMI (body mass index), and the decrease was more significant for boys. Better access to open space has demonstrable effects on BMI.

The goal of this study was to assess changes in the life skill development of elementary school students participating in a 1-year school garden program. The Life Skills Inventory included statements for six constructs of life skills including teamwork, self-understanding, leadership, decision making skills, communication skills, and volunteerism. The students were divided into two treatment groups, an experimental group that participated in the garden program and a control group that did not participate in the school garden program. Students in the control group had significantly higher overall life skills scores on the pretest compared to students participating in the garden program but the scores were no longer significantly different between the groups on the posttest scores at the end of the program. In addition, there were no significant differences in the control group's pretest scores compared to their posttest scores. However, the students in the experimental group did significantly increase their overall life skills scores by 1.5 points after participating in the garden program. Two internal life skill scales were positively influenced by the garden program; "working with groups" and "self understanding." 59

| | | | | | |
|---|---|------|------------------------|---|---|
| Libman, K. | Growing youth growing food: How vegetable gardening influences young people's food consciousness and eating habits. | 2007 | Brooklyn, NY | Applied Environmental Education & Communication 6(1): 87-95 | Benefits: effects of garden-based education in improving public health and the nutrition behavior of young gardeners. |
| Smith, L. L. & Motsenbocker, C. E. | Impact of Hands-on Science through School Gardening in Louisiana Public Elementary Schools | 2005 | Baton Rouge, Louisiana | HortTechnology 15(3): 439-443 | Benefits: effects of gardening activities in school on science test scores |
| Klemmer, C. D., Waliczek, T.M., & Zajicek, J.M. | Growing minds: the effect of a school gardening program on the science achievement of elementary students. | 2005 | Temple, Texas | HortTechnology 15(3): 448-452 | Benefits: effect of garden-based teaching methods vs. classroom-based methods in science education |
| Blair, Dorothy | The Child in the Garden: An Evaluative Review of the Benefits of School Gardening | 2009 | | The Journal of Environmental Education, Volume 40, Issue 2 | Benefits: effects of experiential garden education programs (school-gardening initiatives) on science achievement and food behavior |
| Lohr, V. I. & Pearson-Mims, C. H. | Children's active and passive interactions with plants influence their attitudes and actions toward trees and gardening as adults | 2005 | | HortTechnology 15(3): 472-476 | Benefits: Effects of horticultural programs for children raised in urban environments in fostering an appreciating for gardening in adults. |
| Skelly, S. M. & Zajicek, J. M. | The Effect of an Interdisciplinary Garden Program on the Environmental Attitudes of Elementary School Students | 1998 | | HortTechnology 15 (3): 439-443 | Benefits: effects of interdisciplinary garden activity on childrens' attitudes towards the environment. |
| Hurley, L.P., & Lustbander, L.L. | Project support: Engaging children and families in the educational process | 1997 | New York City | Adolescence, Fall 1997, 32 (127) | Env. Ed. outdoors and at risk youth |

Much attention is currently being paid to rising rates of obesity, especially among youth. In this context, garden-based education can have a role in improving public health. A qualitative study conducted at the Brooklyn Botanic Garden (BBG) Children's Garden provides supporting evidence for the claim that growing vegetables can improve the nutrition behavior of young gardeners. It finds that positive social interaction during gardening, harvesting, sharing, preparing, and eating produce may influence young people's food consciousness and eating habits. Recommendations are made for using the social interaction in garden-based learning settings to positively influence youth's food consciousness and nutrition.

The first four chapters of a hands-on gardening curriculum (Junior Master Gardener Handbook Level One) were introduced into three East Baton Rouge Parish (Louisiana) elementary schools in the fall semester of 2002 as an informal education program conducted by East Baton Rouge Parish Master Gardener volunteers and Louisiana State University students. The curriculum took place once per week for 2 hours during regular school hours. Science achievement tests, developed at Texas A&M University specifically for the Junior Master Gardener program, were given before and after the students participated in the gardening activities to determine whether or not the activities helped improve achievement scores. Science achievement was significantly different ($P \leq 0.0167$) between the experimental classes' pretest and posttest scores, while no significant difference was found between the pretest and posttest scores of the control classes. No significant difference was found between the experimental and control classes due to treatment. Several variables may have affected the outcome of the study, but the results show once weekly use of gardening activities and hands-on classroom activities help improve science achievement test scores.

Science achievement of third, fourth, and fifth grade elementary students was studied using a sample of 647 students from seven elementary schools in Temple, Texas. Students in the experimental group participated in school gardening activities as part of their science curriculum in addition to using traditional classroom-based methods. In contrast, students in the control group were taught science using traditional classroom-based methods only. Students in the experimental group scored significantly higher on the science achievement test compared to the students in the control group. No statistical significance was found between girls and boys in the experimental group, indicating that gardening was equally effective at teaching science for both genders. After separating the data into the grade levels, the garden curriculum was more effective as a teaching method in raising science achievement scores for boys in third and fifth grades, and for girls in the fifth grade compared to traditional classroom-based methods alone.

Although educators widely use school gardens for experiential education, researchers have not systematically examined the evaluative literature on school-gardening outcomes. The author reviewed the U. S. literature on children's gardening, taking into account potential effects, school-gardening outcomes, teacher evaluations of gardens as learning tools, and methodological issues. Quantitative studies showed positive outcomes of school-gardening initiatives in the areas of science achievement and food behavior, but they did not demonstrate that children's environmental attitude or social behavior consistently improve with gardening. Validity and reliability issues reduced general confidence in these results. Qualitative studies documented a wider scope of desirable outcomes, including an array of positive social and environmental behaviors. Gardening enthusiasm varies among teachers, depending on support and horticultural confidence.

A nationwide phone survey of attitudes toward urban trees, participation in civic or educational activities, and memories of childhood experiences with gardening and nature was conducted with 2004 adults in large urban areas. We analyzed the influence of 11 childhood experiences and five adult demographic characteristics on three items: "Trees in cities help people feel calmer," "Do trees have a particular personal, symbolic, or spiritual meaning to you?" and "During the past year, have you participated in a class or program about gardening?" Growing up next to natural elements such as flower beds, visiting parks, taking environmental classes, and gardening during childhood were associated with stronger adult attitudes and more actions. Growing up next to urban elements, such as large buildings, had a small, but opposite, influence. Demographics played a role in adult attitudes and actions. While both passive and active interactions with plants during childhood were associated with positive adult values about trees, the strongest influence came from active gardening, such as picking flowers or planting trees. These results indicate that horticultural programs for children raised in urban surroundings with few or no plants can be effective in fostering an appreciation for gardening in adults.

Project GREEN (Garden Resources for Environmental Education Now) is a garden program designed to help teachers integrate environmental education into their classroom using a hands-on tool, the garden. The objectives of this research project were to 1) develop an interdisciplinary garden activity guide to help teachers integrate environmental education into their curricula and 2) evaluate whether children developed positive environmental attitudes by participating in the activities. Students participating in the Project GREEN garden program had more positive environmental attitude scores than those students who did not participate. Second-grade students in the experimental and control groups had more positive environmental attitudes than fourth-grade students. In addition, this research found a significant correlation between the number of outdoor related activities students had experienced and their environmental attitudes.

The literature on dropout prevention reveals that a triumvirate of support--from the family, the school, and the community--is necessary to engage children in the educational process. This paper describes Project Support, a federally funded five-year program for at-risk youths that focused on alcohol, drug, and dropout prevention in four low-income, high-minority public school districts in the suburbs of New York City. Of several avenues taken, two were very effective: a school-based mentoring program designed for middle school students and the Outdoor and Environmental Education program that took place during summers and intermittently throughout the school year. The sense of achievement, bonding, and success experienced by participants was acknowledged by administrators, evaluators, parents, and other observers.

| | | | | | |
|---|---|------|--|---|---|
| Gehris, J.S. | A quantitative and qualitative investigation of the effects of adventure education on high school students | 2007 | | Unpublished Dissertation, Temple University | Env. Ed. Wellness and adventure education benefits |
| Simpson, Milward | Connecting Urban Kids to Nature through Parks | | Wyoming Dep. Of State Parks and Cultural Resources | Webinar from NRPA http://www.nrpa.org/media/webinars/Children%20in%20Nature%20Urban%20Kids/lib/playback.html | Examples/Best practices |
| Simpson, Milward | Every Kid in a Park: Connecting Local and State Parks to the President's National Initiative | | | Webinar http://www.nrpa.org/media/webinars/Every%20Kid%20Park/lib/playback.html | Examples/Best practices |
| U.S. Department of the Interior | Getting Youth Outdoors in 50 Cities Across the US | 2016 | | https://www.doi.gov/blog/getting-youth-outdoors-50-cities-across-us | Examples/Best practices |
| Moore, R.C. | Nature Play & Learning Places. Creating and managing places where children engage with nature. | 2014 | | Natural Learning Initiative and National Wildlife | Examples/Best Practices for nature park design for youth. |
| Bruyere, B., Dempsey, J., & Herbert, M. | Working with a new kind of partner: Partnerships with diversity-serving community-based organizations to reach youth about nature and science | | Denver | Journal of Extension | Examples/Best practices. Partnerships |
| Anschutz Health and Wellness Center, University of Colorado, Denver | ASLA Field Session: Learning Landscapes | 2012 | Colorado | Unpublished: Anschutz Health and Wellness Center, University of Colorado, Denver | Examples: School garden designs, Schoolyard garden programs |
| California School Garden Network | Gardens for Learning: Creating and Sustaining Your School Garden | 2010 | California | California School Garden Network Self Publication | Learning Landscapes. Best practices, guide. |
| Matsuoaka, Rodney H. | "High School Landscape and Student Performance" | 2008 | Ann Arbor, Michigan | Dissertation, University of Michigan | Learning Landscapes. High School Landscapes, Student Achievement and Behavior, School Outdoor Environment, Benefits of Nature |

The purpose of this study was to investigate the effects of adventure education on high school students' physical self-concept, physical fitness, and self-esteem as well as their beliefs regarding the effects of adventure education. A mixed-method design was utilized. The quantitative results revealed no significant main effects of course for any of the physical self-concept or physical fitness measures. One significant main effect of course was found for self-esteem; participants in both the adventure education class and the wellness class had significantly higher self-esteem compared to participants in the health class. The qualitative results revealed nine descriptive themes: (1) Adventure education evokes feelings. (2) Adventure education affords opportunities to learn new skills, to be physically active, and to be successful as a non-athlete. (3) Adventure education is physically demanding. (4) Adventure education involves building relationships. (5) Adventure education promotes self-awareness. (6) Adventure education instills self-confidence. (7) Adventure education requires critical thinking. (8) The physical demands of adventure education increase self-awareness. (9) The physical demands of adventure education increase self-confidence.

Includes examples of successful partnerships, youth leadership and empowerment, career pathways

Examples of best practices for classrooms, partnerships, family programs and backyard programs, and etc.

Let's Move! Outside program examples of partnerships with YMCAs.

This publication offers a set of guidelines for those who create, manage or promote development of nature spaces in the everyday environments of children, youth, and families, especially in urban/suburban communities. The goal is to attract kids and families outdoors to interact directly with nature. Seven chapters cover topics such as why nature play and learning is important for health and human development; the historical precedents of community-based, children's outdoor facilities dedicated to free play and learning; how playing with and learning through nature can be a vehicle for environmental literacy and advance educational missions; locating, designing, and implementing nature play areas; along with how to address risk management and other related factors.

Based on a collaborative of eight organizations in Denver, the authors investigate how large science and nature organizations (e.g., Denver Zoo) can effectively partner with small neighborhood-level community organizations that have trust and access with traditionally hard-to-reach populations. The article highlights the importance of give-and-take between organizations and value of regular evaluation of the partnerships.

Learning Landscape schoolyard-design reflects the unique culture and history of the people, the school, and the neighborhood it serves while providing opportunities for physical activity, socialization & creative play. The distinctive elements of Learning Landscape schoolyards include: Community gateways and gathering spaces, Public art works, Age-appropriate play equipment, Grass playing fields, Colorful structured & unstructured asphalt games • Custom shade structures • Vegetable gardens • Habitat areas/nature play

A comprehensive guide developed by experts to be a must-have resource for anyone enhancing learning through school gardens and other community settings. This document includes case studies of school gardens in California, along with step-by-step how-to build a garden and incorporate it into school lessons. Relevant Chapters: 2. Planning Your School Garden, 3. Linking Gardens to School Curriculum, 4. Promoting Healthy Living, . Designing Your School Garden)

High school students today are experiencing unprecedented levels of school related stress. At the same time, a growing body of research has linked views of and access to natural features with stress reduction and restoration from mental fatigue. How important are such views and access to students while they are at school? This study investigated 101 public high schools in southeastern Michigan to examine the role played by the availability of nearby natural environments in the academic achievement and behavior of high school students. All analyses controlled for student socio-economic status, racial/ethnic makeup, building age, and size of enrollment. The results reveal that nature exposure beneficially affects student performance. Specifically, views with greater quantities of natural features (e.g., trees, shrubs) from classroom as well as cafeteria windows were associated with higher standardized test scores, graduation rates, and percentages of students planning to attend college, and lower occurrences of criminal behavior.

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|---|---|------|---------------------------------|--|--|
| Subramaniam, Aarti | Garden-Based Learning in Basic Education: A Historical Review | 2002 | University of California, Davis | MONOGRAPH, 4-H Center for Youth Development | Learning Landscapes. History and Comparative Studies: Effects of gardens as a teaching method |
| Pivnick, J. | Sowing a school garden: Reaping an environmental ethic | 1994 | New York City | Greening School Grounds: Creating habitats for learning | Learning Landscapes. How garden-based education affects connection with nature. |
| Faber Taylor, Andrea * Kuo, Frances | "Children With Attention Deficits Concentrate Better After Walk in Park" | 2009 | | Journal of Attention Disorders | Learning Landscapes. Subgroup. Benefits. Study evaluating effect of walks on children with ADHD. |
| Kuo, Frances & Faber Taylor, Andrea | "A Potential Natural Treatment for Attention-Deficity/Hyperactivity Disorder: Evidence From a National Study" | | | American Journal of Public Health. 94(9), 1580-1586. | Learning Landscapes. Subgroup: impact of "green" or natural settings on ADHD symptoms in children. |
| Veitch, Jenny, Anna Timperio, & David Crawford, et al | Is the Neighbourhood Environment Associated with Sedentary Behavior Outside of School Hours Among Children? | 2011 | Melbourne, Australia | The Society of Behavioral Medicine | Parks. Improvements and increase in youth physical activity |
| Sotomayor, S., Barbieri, C., Wilhelm Stanis, S., et al. | Motivations for recreating on farmlands, private forests, and state or national parks. | 2014 | | Environmental Management | Parks. Motivations for us of recreation settings |
| Cohen, Deborah, Han B, Isacoff J et al | Impact of park renovations on park use and park-based physical activity. | 2015 | | Journal of Physical Activity and Health http://www.ncbi.nlm.nih.gov/pubmed/24956608 | Parks. Park use after renovation |
| NRPA | Parks & Recreation in Underserved Areas: A Public Health Perspective | | | National Recreation and Parks Association | Parks. Park use and physical activity levels |

This review traces the history of garden-based learning, describes the philosophy and underlying theoretical frameworks of this approach and presents the results of specific evaluations of some garden-based programs. Of the four reasons for using gardens as a teaching method (1. High retention rate, 2. Empowerment, 3. Academics, 4. Teamwork), the documented impacts of the program were (better performance on standardized achievement tests of reading, writing, math, social studies and science, reduced classroom management and discipline problems, increased attention and enthusiasm for learning, and greater pride of ownership of accomplishments.)

Based on the idea that, to create a long-lasting, deeply held environmental ethic, environmental education must address human alienation from the natural world, this article examines gardening as a means to help students connect with nature in a very profound way.

In the general population, attention is reliably enhanced after exposure to certain physical environments, particularly natural environments. This study examined the impacts of environments on attention in children with ADHD. Method: In this within subjects design, each participant experienced each of three treatments (environments) in single blind controlled trials. Seventeen children 7 to 12 years old professionally diagnosed with ADHD experienced each of three environments—a city park and two other well-kept urban settings—via individually guided 20-minute walks. Environments were experienced 1 week apart, with randomized assignment to treatment order. After each walk, concentration was measured using Digit Span Backwards. Results: Children with ADHD concentrated better after the walk in the park than after the downtown walk ($p = .0229$) or the neighborhood walk ($p = .0072$). Effect sizes were substantial (Cohen's $d = .52$ and $.77$, respectively) and comparable to those reported for recent formulations of methylphenidate. Conclusion: Twenty minutes in a park setting was sufficient to elevate attention performance relative to the same amount of time in other settings. These findings indicate that environments can enhance attention not only in the general population but also in ADHD populations. "Doses of nature" might serve as a safe, inexpensive, widely accessible new tool in the tool kit for managing ADHD symptoms.

In this national, nonprobability sample, green outdoor activities reduced symptoms significantly more than did activities conducted in other settings, even when activities were matched across settings. Findings were consistent across age, gender, and income groups; community types; geographic regions; and diagnoses.

This study aims to examine the associations between public open spaces (POS), parent perceptions of the neighborhood and children's sedentary behaviors. Neighborhood features appear to positively and negatively influence children's sedentary behaviors, highlighting the complexity of urban planning on behavior. In the intervention park, there were significant increases from pre- to post-improvement in the number of park users ($T1=235$, $T3=985$) and the number of people observed walking ($T1=155$, $T3=369$) and being vigorously active ($T1=38$, $T3=257$).

This study explored the importance of different motivations to visit three types of recreational settings—farms, private forests, and state or national parks. Analysis revealed both similarities and differences in motivations for visiting these settings. Being with family, viewing natural scenery, and enjoying the smells and sounds of nature were all highly important motivations. However, all 15 motivations examined were perceived to be significantly more important for visits to state or national parks than to farms or private forests. Findings suggest that individuals are more strongly motivated to recreate at state and national parks relative to farmlands or forests. Comparing motivations between both agricultural settings (farms and private forests) revealed significant differences in eight different recreational motivations. Individuals tended to place more importance on the ability to use equipment and test their skills when considering recreating on private forests. Conversely, social motivations (e.g., doing something with the family) were more important when individuals were considering recreating on farmland. Collectively, the findings suggest individuals expect distinctly different outcomes from their visits to farmlands, private forests, or state or national parks. Consequently, all three types of recreational settings have competitive advantages that their managers could capitalize on when making decisions about how to attract new visitors or produce the most desirable experiences for current users.

Given the concerns about low rates of physical activity among low-income minority youth, many community-based organizations are investing in the creation or renovation of public parks to encourage youth to become more physically active. To what degree park renovations accomplish this goal is not known. We used the System for Observing Play and Recreation in Communities (SOPARC) to measure park users and their physical activity levels before and after 2 parks were renovated. We compared findings with 4 parks: 2 that were unrenovated parks and 2 that were undergoing renovation. We also surveyed park users and local residents about their use of the parks. Compared with parks that had not yet been renovated, the improved parks saw more than a doubling in the number of visitors and a substantial increase in energy expended in the parks. Increased park use was pronounced in adults and children, but was not seen in teens and seniors. Park renovations were associated with a significantly increased perception of park safety.

Several studies have documented that while parks and recreational facilities are available throughout the United States, there are several additional factors that affect park use and physical activity levels. This paper examines the following factors: 1. Park Access, 2. Park Distribution, 3. Park Facilities, 4. Park Conditions

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|---|---|------|---|--|---|
| Cohen, Deborah A., Bing Han, Nagel, Catherine Et Al | The First National Study of Neighborhood Parks: Implications for Physical Activity | 2016 | 25 major US Cities | American Journal of Preventive Medicine http://www.ncbi.nlm.nih.gov/pubmed/27209496 | Parks. Park use benchmarks to improve population health. Programming. Low-income, teens, gender |
| Kaczynski, A., Potwarka, L. & Saelens, B | Association of Park Size, Distance, and Features With Physical Activity in Neighborhood Parks. | 2008 | | American Journal of Public Health. 98(8): 1451-1456. | Parks. Physical activity and natural features |
| Floyd, M., Spengler J. Maddock, J., et al. | Environmental and Social Correlates of Physical Activity in Neighborhood Parks: An Observational Study in Tampa and Chicago | 2008 | 28 parks in Tampa, FL and Chicago, IL | Leisure Sciences. 30(4): 360-375. | Parks. Physical activity and park amenities |
| Kaczynski, A. T., & Henderson, K. A. | Environmental correlates of physical activity: A review of evidence about Parks and Recreation | 2007 | | Leisure Sciences. 29(4):315-354. | Parks. Proximity and physical activity |
| Duton, Genevieve, Estela Almanza et al | Neighborhood Park Use by Children | 2014 | Southern California | American Journal of Preventative Medicine | Parks. Proximity and youth use |
| Cohen, Deborah, Han B, Derose KP ET Al | The Paradox of Parks in Low-Income Areas: Park Use and Perceived Threats | 2016 | Los Angeles | Environmental Behavior http://www.ncbi.nlm.nih.gov/pubmed/27065480 | Parks. Safety perceptions in low-income areas. Programming and park use |
| Cohen, D. A., Lapham, S., Evenson, K. R., Williamson et al. | Use of neighborhood parks: does socio-economic status matter? A four-city study. | 2013 | Albuquerque, Chapel Hill / Duram, Columbus and Philadelphia | Public Health. http://www.sciencedirect.com/science/article/pii/S0033350613000048 | Parks. Suggests that park programming is the most important correlate of park use and park-based physical activity for those of lower economic means. |

Nationwide, the average neighborhood park of 8.8 acres averaged 20 users/hour or an estimated 1,533 person hours of weekly use. Walking loops and gymnasias each generated 221 hours/week of moderate to vigorous physical activity. Seniors represented 4% of park users, but 20% of the general population. Parks were used less in low-income than in high-income neighborhoods, largely explained by fewer supervised activities and marketing/outreach efforts. Programming and marketing were associated with 37% and 63% more hours of moderate to vigorous physical activity/week in parks, respectively. Typical park user distribution by age is 38% children, 13% teen (compared to U.S. Population- children = 20% and 7% teen). Seniors 60+ represented only 4% observed park visitor compared to 20% of the general population. Parks in high-poverty areas tend to be used less than parks in low-poverty neighborhoods and have fewer supervised areas. Supervised activities and onsite marketing were significantly related to increased park use and person hours. The presence of marketing materials such as banners, posters, and signs was associated with a 62% increase in the number of park users. Litter is observed more often in low-income area parks. 1 additional acre was associated with a 9% increase in park use. 10,000 additional population living in a 1-mile radius was associated with a 13% increase in park use. A 10% point increase in the local household poverty level was associated with a 12% decrease in park use. Each additional accessible target area (e.g., basketball court, tennis court, play area) was associated with 2% more person hours of park use. More park users are male (57%) and they accounted for 60% of the estimates MVPA person hours. The gender disparity was the greatest for teens. Male teens account for 65% of teen visitors and 68% of teen MVPA.

Parks that have either paved or unpaved trails and wooded areas are seven times more likely to be used for physical activity than parks that did not have these features. Parks that provide supporting amenities such as bicycle racks and restrooms are more likely to be used for physical activity

Park users engage in higher levels of physical activity in parks that have playgrounds, sports facilities and trails

Park proximity plays an important role in facilitating higher levels of park use and physical activity levels particularly amongst youth populations

Although children's use of neighborhood parks was generally low, it increased substantially when parks were closer to children's homes and had greater vegetation density. The odds of extended park use (>15 minutes) increased fourfold when the distance between home and the nearest neighborhood park decreased by 100 m. Additionally, the odds of any park use (>5 minutes) doubled when moving from the 25th to the 75th percentile for park greenness/vegetation density.

Concerns about safety and perceived threats have been considered responsible for lower use of parks in high poverty neighborhoods. To quantify the role of perceived threats on park use we systematically observed 48 parks and surveyed park users and household residents in low-income neighborhoods in the City of Los Angeles. Across all parks, the majority of both park users and local residents perceive parks as safe or very safe. We noted apparently homeless individuals during nearly half of all observations, but very few instances of fighting, intimidating groups, smoking and intoxication. The presence of homeless individuals was associated with higher numbers of park users, while the presence of intoxicated persons was associated with lower numbers. Overall the strongest predictors of increased park use were the presence of organized and supervised activities. Therefore, to increase park use, focusing resources on programming may be more fruitful than targeting perceived threats.

Higher socio-economic status (SES) has been found to be an important correlate of greater leisure time physical activity (PA), yet whether differences in leisure time PA between high and low-income populations are due to individual preferences or other factors is still unknown. Prior studies have been limited geographically, did not account for differences in individual access to parks and other recreational facilities, and did not use objectively measured data. To overcome these limitations, this study surveyed populations with similar access to parks in four disparate geographic locations using both direct observation and self-report. This study examined whether neighborhood SES was an independent correlate of park-based PA, given equal access. Because PA is a critical contributor to health and a determinant of well-being and longevity, understanding the social and contextual factors that promote or hinder activity engagement is critical to developing interventions or remedies. The study used the System for Observation of Play and Recreation in Communities (SOPARC) to measure neighborhood park use, along with intercept surveys of users and neighborhood surveys. Results were that the size and number of facilities in high poverty neighborhood parks were similar to those in low poverty neighborhood parks, but the former had more hours of programming. Neighborhood poverty level, perception of safety, and the presence of incivilities were not associated with the number of observed park users. However, programmed activities and the number of activity facilities were strongly correlated with park use and energy expended in the park. The authors concluded that park programming is the most important correlate of park use and park-based physical activity, suggesting that there are considerable opportunities for facilitating increased PA among both high and low poverty area populations.

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|---|---|------|--|--|---|
| Frank, L., Kerr, J., Chapman, J. and Sallis, | Urban Form Relationships with Walk Trip Frequency and Distance among Youth | 2007 | | American Journal of Health Promotion 21(4): S1-S7 | Parks. Youth proximity to parks and likely-hood of walking |
| Kirkby, MaryAnn | "Nature as Refuge in Children's Environments." | 1989 | | Children's Environments Quarterly, Vol 6(1), 1989, 7-12. | Places. Comparative study looking at traditional playground equipment vs. more natural refuges. |
| Dirks, A. E. & Orvis, K. (2005) | An evaluation of the junior master gardener program in third grade classrooms | 2005 | Indiana | HortTechnology 15(3): 443-447 | Program: Effect of school garden program on third grade students' attitudes and knowledge of science, horticulture and the environment. |
| Wells, Nancy, and Lekies, Kristi | "Nature and the Life Course: Pathways from Childhood Nature Experiences to Adult Environmentalism." | 2006 | | Children, Youth and Environments Journal | Stewardship. Childhood paths to adult environmentalism. |
| Chawla, Louise | "Life Paths into Effective Environmental Action" | 1999 | | The Journal of Environmental Education. | Stewardship. Interviews with adult environmentalists. |
| Perez LG, Arredondo EM, McKenzie TL ET AL | Neighborhood Social Cohesion and Depressive Symptoms Among Latinos: Does Use of Community Resources for Physical Activity Matter? | 2015 | | Journal of Physical Activity and Health http://www.ncbi.nlm.nih.gov/pubmed/25599244 | Subgroup- Latinos. |
| Floyd, Myron, Danielle Ross-Winslow, Eric Thompson et. al | Barriers and Strategies to Connecting Urban Audiences to Wildlife and Nature: Results from a Multi-Method Research Project | 2014 | Included community workshop with Rocky Mountain Arsenal NWR Denver | U.S. Fish and Wildlife Services Urban Wildlife Conservation Program. https://content.ces.ncsu.edu/show_ep3_pdf/1471369656/23136/ | Subgroup- Minorities. Recommendations for programmatic changes |

Study examining park proximity and travel diary data of youth between the ages of five and twenty in Atlanta, GA illustrates that youth who resided close to parks and open space were approximately two to three times likely to take a walk within a two-day period than their counterparts that had no parks near their homes. This holds true for adults as well- people who reside within half a mile of a park exercise five or more times a week than those who reside further away from parks

Observed setting preferences and play behaviors in refuge settings among 26 children (mean age 4 yrs 8 mo) and 53 children (mean age 4 yrs 2 mo), respectively. Refuge settings, both natural and built, were highly preferred over traditional playground equipment. Three refuges were perceived and used by children as suitable for different play behavior. Design guidelines are suggested for creating enclosures attractive to children and conducive to developmentally significant play. (PsycINFO Database Record (c) 2016 APA, all rights reserved)

Studies have shown gardening to have the potential to influence students in several positive ways. The hands-on and informal learning that occurs in these outdoor areas can be incorporated into all areas of the curriculum, fostering environmental awareness and increased interest in science. Junior Master Gardener (JMG) was chosen to be evaluated in 14 Indiana third grade classrooms as little formal classroom usage data exists for the program. It was hypothesized that the use of the program could help improve agriculture awareness and knowledge in youth. Quantitative and qualitative instruments and observations were utilized in an effort to evaluate knowledge gain and change of attitude towards the topics covered by the JMG curriculum; science, horticulture, and the environment. Student pre- and posttest results indicated overall significant gains in knowledge and attitudes. Performance was not attributed to student age, gender, race, or location of the school, although those schools with a garden achieved more positive gains in attitude and specific performance varied according to classroom. Qualitative data also indicated that the students enjoyed the program, shared what they learned with others, and wanted to participate in more JMG and gardening type activities. Teachers indicated that they were satisfied with the program in their classrooms and planned to reuse their JMG materials for future classes.

This paper examines connections between childhood involvement with the natural environment and adult environmentalism from a life course perspective. Approximately 2,000 adults age 18-90 living in urban areas throughout the United States were interviewed with respect to their childhood nature experiences and their current, adult attitudes and behaviors relating to the environment. Model testing and cross-validation procedures using structural equation modeling suggest that childhood participation with nature may set an individual on a trajectory toward adult environmentalism. Specifically, childhood participation in "wild" nature such as hiking or playing in the woods, camping, and hunting or fishing, as well as participation with "domesticated" nature such as picking flowers or produce, planting trees or seeds, and caring for plants in childhood have a positive relationship to adult environmental attitudes. "Wild nature" participation is also positively associated with environmental behaviors while "domesticated nature" experiences are marginally related to environmental behaviors.

Structured, open-ended interviews were conducted with 30 environmentalists in Kentucky and 26 in Norway (35 men, 21 women) who represented a broad range of issues, from wilderness protection to urban planning, to determine the sources of their environmental commitment. Experiences of natural areas, family influences, organizations, negative experiences, and education were mentioned most often. People were also asked about the period in life when significant experiences occurred, and on this basis, a typical life path of predominant sources of commitment at different ages was constructed. Respondents also recommended strategies for effective environmental action.

The purpose of the study was to examine the effects of physical activity on the association between neighborhood social cohesion and depressive symptoms. Active use of parks or recreational facilities moderated the association between neighborhood social cohesion and depressive symptoms but meeting the recommendations for LTMVPA did not. Latinos who reported active use of parks or recreational facilities and higher levels of neighborhood social cohesion had fewer depressive symptoms than peers who did not use these spaces.

The research consisted of: (1) reviewing and synthesizing literature to better understand known barriers, motivations, and strategies for engaging urban audiences in outdoor recreation; (2) conducting workshops to gain feedback from community representatives about community members' needs and motivations for participation in outdoor recreation, perceived barriers, and strategies to better engage diverse urban residents in outdoor and wildlife-dependent recreation on refuges; and (3) interviewing refuge staff and partner organization representatives in urban areas to understand perceptions of refuge visitation, identify successful and unsuccessful engagement programs and strategies, and identify institutional factors that affect the Service's ability to connect with urban audiences. Findings from the literature synthesis showed lower participation rates in outdoor recreation among racial and ethnic minority groups. Some studies found similar rates of participation in wildlife-dependent recreation (e.g., fishing) across racial and ethnic groups. Minority groups, however, were less likely to participate in outdoor activities such as camping and hiking. Studies also found similarities in activity participation at day-use areas among different racial and ethnic groups. Differences were observed in time spent at recreation areas, size of recreation groups, and preferences for site attributes. In general, management recommendations found in the literature focused on using what is known about minority groups' and urban populations' preferences to attract them to recreation activities and areas. The most frequent recommendation was to develop desirable facilities and amenities (e.g., shore-based fishing facilities, picnic tables for large groups, and clean and safe restrooms). There was also an emphasis on the need for tailored outreach and communication for specific population subgroups. Numerous knowledge gaps, such as data on evaluation of programs to increase visitor diversity, were identified in the literature with regard to understanding urban and ethnically/racially diverse populations' participation in wildlife-dependent recreation. In addition, longitudinal studies are needed to document changes in perceived constraints, activity patterns, setting preferences, and other topics not addressed in surveys conducted by the Service. The discussion sections of each of the 56 publications were analyzed to identify management recommendations that have been suggested in the literature

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| Faber Taylor, A., Kuo, F. & Sullivan, W. | "Views of nature and self-discipline: Evidence from inner city children." | 2002 | | Journal of Environmental Psychology 22: 49-63. | Sub-group. How near-home nature affects self-discipline in 169 inner city children. |
| Athens Research Group, Southern Research Station, USDA Forest Service | Hispanic Americans and Outdoor Recreation | 2011 | | Internet Research Information Series (IRIS) http://warnell.forestry.uga.edu/nrrt/nsre/IrisReports.html | Sub-group. Hispanics. Examining outdoor recreation participation rates among Hispanics age 16 and older based on a survey of 538 Hispanics |
| Jennifer Swanson, M.E., JS Medical Communications, LLC, and Amelie G. Ramirez, Dr.P.H., and Kipling J. Gallion, M.A., University of Texas Health Science Center at San Antonio. | How to Achieve Active Spaces for Latino Kids | 2016 | Studies primarily in California communities. Examples from cities throughout the US | Robert Wood Johnson Foundation Research. Salud America! Network to Prevent Obesity Among Latino Children Issue Brief Jan 2016 | Subgroup. Latino children in underserved communities |
| Floyd MF, Taylor WC, Whitt-Glover M. | Measurement of Park and Recreation Environments That Support Physical Activity in Low-Income Communities of Color | 2009 | | | Sub-group. Low-income and communities of color |
| Cammack, C., Waliczek, T. M. & Zajickek, J. M. | The Green Brigade: The educational effects of a community-based horticultural program on the horticultural knowledge and environmental attitudes of juvenile offenders. | 2002 | | HortTechnology | Sub-group: impact of horticulture on Juvenile offenders. |

Children growing up in the inner city are at risk of academic underachievement, juvenile delinquency, teenage pregnancy, and other important negative outcomes. Avoiding these outcomes requires self-discipline. Self-discipline, in turn, may draw on directed attention, a limited resource that can be renewed through contact with nature. This study examined the relationship between near-home nature and three forms of self-discipline in 169 inner city girls and boys randomly assigned to 12 architecturally identical high-rise buildings with varying levels of nearby nature. Parent ratings of the naturalness of the view from home were used to predict children's performance on tests of concentration, impulse inhibition, and delay of gratification. Regressions indicated that, on average, the more natural a girl's view from home, the better her performance at each of these forms of self-discipline. For girls, view accounted for 20% of the variance in scores on the combined self-discipline index. For boys, who typically spend less time playing in and around their homes, view from home showed no relationship to performance on any measure. These findings suggest that, for girls, green space immediately outside the home can help them lead more effective, self-disciplined lives. For boys, perhaps more distant green spaces are equally important.

One observation that emerges from these results is the popularity of water based recreation among Hispanics, especially visiting beaches and swimming, and interest in historic sites and bicycling. Outdoor activities with the highest percentage of Hispanic people participating were "view/photograph natural scenery" (59.3%), "Visit a beach" (54.6%), "View/photograph flowers, etc." (52.4%) , "Swimming in lakes, ponds, etc. (52.3%) and visiting historic sites (50.5%). The five activities with the greatest difference between Hispanic and non-Hispanic populations, where Hispanic participation was greater by 5 or more percentage points, are visiting prehistoric sites, bicycling, swimming in lakes/ponds/etc., visiting a beach, and fishing. Conversely, the activities for which non Hispanic participation rates were 6 or more percentage points higher were viewing or photographing birds, motor boating, viewing or photographing natural scenery, boating (in general), and viewing and photographing other wildlife besides birds.

Fewer Latino (70%) than White (82.5%) respondents to a national survey described their neighborhoods as having safe places for kids to play. 81% of Latino neighborhoods did not have a recreational facility, compared with 38% of White neighborhoods, a study found. Fear of crime negatively impacts Latino kids' levels of physical activity. Shared use agreements—formal contracts between a school and a city, county, or sports league, that outline terms and conditions for sharing existing physical activity facilities—have helped increase access to active spaces in some Latino communities. Improved park maintenance and safety increases Latinos' use of active spaces. Safer routes and streets improve young Latinos' access to active spaces. Marketing and technology are promising strategies to promote physical activity for Latino kids.

The capacity of public parks and recreation environments to promote physical activity for low-income communities of color is receiving increased attention from researchers and policymakers. As a result, several systems to measure park and recreation environments have been recently developed. Three primary recommendations are presented. First, future measurement tools should explicitly reflect inequality in the built environment in terms of availability and quality of parks and recreation areas. Second, measurement strategies should incorporate research on recreation activity and setting preferences important in low-income communities of color. Finally, the perceptions of residents of low-income communities of color should be reflected in measurement approaches. One strategy for incorporating the perceptions is community-based participatory research. The rapid development of high-quality tools for measuring parks and recreation environments is encouraging. However, existing measures should be tested and refined in varying social–ecologic conditions, and new tools should be developed specifically for nuances associated with low-income minority communities.

The Green Brigade horticultural program is a community-based treatment and diversion program for juvenile offenders. The program is used for vocational training and rehabilitation. The objectives of this study were to determine if participation in the Green Brigade program improved the horticultural knowledge and the environmental attitudes of participating juvenile offenders. Participants of the Green Brigade program significantly improved their horticultural knowledge exam scores as a result of participating in the program. Participants also had significant improvements in their environmental attitude scores after completing the program. However, participants attending the Green Brigade program less than 60% of the time had significantly more negative environmental attitude scores than participants attending more frequently. Further analyses showed the program was equally effective at improving environmental attitude scores for all participants regardless of gender, ethnicity, age or grade in school.

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| Cutler-Mackenzie, A. | Multicultural school gardens: Creating engaging garden spaces in learning about language, culture, and environment | 2009 | Australia | Canadian Journal of Environmental Education 14:122-135 | Subgroup: low-income and diverse children, effects of gardening and cooking on learning and transcending language and cultural differences |
| Wells, Nancy Environment and Behavior | "At Home with Nature: Effects of 'greenness' on children's cognitive functioning." | 2000 | Cornell University | Environment and Behavior 32(6):775-795 | Subgroup: low-income urban children. Linkage between naturalness of home environment and low income children. |
| Chawla, Louise, Escalante, Myriam, & Yost, Bambi | Benefits of Gardening for Children | 2009 | Colorado | Unpublished: University of Colorado at Denver and Health Sciences Center | Survey + Benefits. Factsheet. This paper exhibits studies that show the relationship between social skills, eating, and science achievement in children who have gardened. |
| The Nature Conservancy and Metz & Associates and Public Opinion Strategies | Survey Results- Connecting America's Youth to Nature | 2011 | | 602 on-line interviews with American youth between ages 13 and 18 | Survey. National youth benchmark |
| Cordell, Ken and Carter Benz | National Kids Survey: How Much Time Do Kids Spend Outdoors? | 2009 | | Internet Research Information Series (IRIS) http://warnell.forestry.uga.edu/nrrt/nsre/IrisReports.html | Survey. National youth benchmark |
| Jessica M. Clement, Antony S. Cheng | Using analyses of public value orientations, attitudes and preferences to inform national forest planning in Colorado and Wyoming | 2011 | Colorado, Wyoming | Applied Geography Journal | Survey. This paper presents results and discusses implications from social surveys conducted on three national forests in Colorado and Wyoming. |

Children's gardening programs have enjoyed increasing popularity in recent years. An Australian environmental education non-profit organization implemented a program, entitled Multicultural Schools Gardens, in disadvantaged (low-income) schools that used food gardening as a focus for implementing a culturally-focused environmental education program. While the program included the well documented educational, social, and health benefits of growing food, gardening and cooking were also utilized as leverage in learning about culture, language (English as a Second Language), and environment. Alongside the program's implementation, a combined methods research approach was applied to gauge children's learning experiences as program participants. Part of this process involved children researching their own practice, accompanied by researcher interviews and observations with students and teachers. This paper presents an inquiry into practice involving one site, revealing how a culturally diverse school with a high proportion of migrant and refugee families created an engaging garden space. This space led to a strong sense of belonging among students who were formerly dislodged from their birthplaces, together with providing opportunities for learning English language and forming connections to the local environment. The paper provides food for thought with respect to the potential for children's gardening to transcend language and cultural differences.

The nearby natural environment plays a far more significant role in the well-being of children residing in poor urban environments than has previously been recognized. Using a premove/postmove longitudinal design, this research explores the linkage between the naturalness or restorativeness of the home environment and the cognitive functioning of 17 low-income urban children (aged 7–12 yrs). Both before and after relocation, objective measures of naturalness were used along with a standardized instrument (the Attention Deficit Disorders Evaluation Scale) measuring the children's cognitive functioning. Results show that children whose homes improved the most in terms of greenness following relocation also tended to have the highest levels of cognitive functioning following the move. The implications with respect to policy and design are also discussed. (PsycINFO Database Record (c) 2012 APA, all rights reserved)

Gardening provides different forms of engagement for children, including designing, planting, and maintaining gardens; harvesting, preparing, and sharing food; working cooperatively in groups; learning about science and nutrition; and creating art and stories inspired by gardens. The studies summarized here have been selected because they include control groups, pre- and post-measures, well controlled correlations, or in-depth qualitative analyses.

Currently 88% of American youth say that they spend time on-line every day, with 69% playing video games or watching TV with that same level of frequency. Both represent far greater proportions than say they do homework or study for school every day (58%). American youth are unhappy with the condition of the environment, and lack faith in adults to address it. The survey shows that 66% of youth say that they "have had a personal experience in nature" that made them appreciate it more. The key obstacles to overcome in getting youth to spend more time in nature are a lack of access, a lack of interest, and feelings of discomfort. among those youth whose body mass index (BMI) classifies them as obese, there are notably lower rates of participation in outdoor activities and less interest in pursuing them in the future. Youth in the West are most likely to regularly spend time in nature, and most likely to label themselves "strong environmentalists" (18%). Youth in the West are most likely to express a preference for spending time outdoors (39%). Their own words reflect a widespread sentiment that being outdoors is simply enjoyable. In fact, among the outdoor activities in which youth express most interest in participating are "seeing something beautiful or amazing in nature" (78%), "having free time in a natural area with your friends to make your own fun" (74%), and "doing something outdoors in a natural area you have never done before, to challenge yourself." (63%). Among youth who regularly spend time in nature, nearly four in five (79%) report having done so with their friends. Not surprisingly then, more than nine in ten would pay attention to a friend's encouragement to spend more time in nature.

Sixty-one percent of kids 6 to 19 reported spending two or more hours outdoors on a typical weekday and over three-fourths reported two or more hours outdoors on typical weekend days. One half of kids spent as much as 4 or more hours outdoors on a typical weekend day. Less than five percent spent no time outdoors on either weekdays or weekend days.

The results indicate that although respondents identified aesthetic, biodiversity, future and recreation value orientations as most important, there are also surprising linkages between value orientations, attitudes and preferences towards forest uses and policy options associated with specific geographic and socio-economic contexts and conditions.

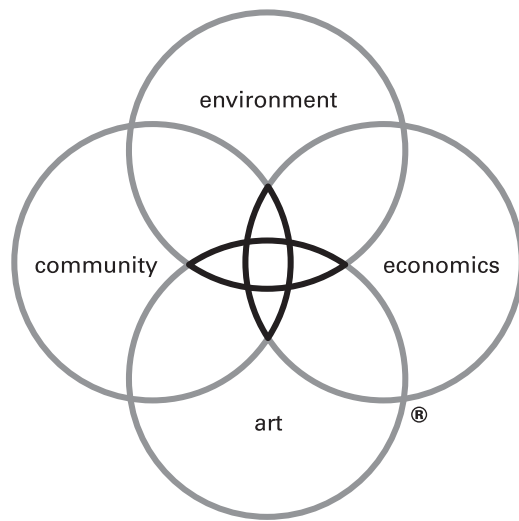
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| McFarland, A.L. Zajicek, J.M. Wallcszek, T.M. | The relationship between parental attitudes toward nature and the amount of time children spend in outdoor recreation. | 2014 | Texas. 69 families surveyed | Journal of Leisure Research, 46(5), | Behavior. Parental influence |
| Beyer, K., Bizub, J., Szabo, A., Heller, B., Kistner, A., Shawgo, E., Zetts, C., | Development and validation of the attitudes toward outdoor play scales for children | 2015 | Milwaukee, WI | Social Science & Medicine, 133, 253-260. | Measurement. Outcome measurement of attitudes toward outdoor play |
| Xu, H., Wen, L.M., Hardy, L.L., Rissel, C., | A 5-year longitudinal analysis of modifiable predictors for outdoor play and screen-time of 2- to 5-year-olds | 2016 | Sydney, Australia | International Journal of Behavioral Nutrition and Physical Activity, 13(96) | Behavior: Early parenting practices and mother's physical activity level and screen time use predict level of outdoor play |
| Cheng, J. C., Monroe, M. C. | Connection to nature: Children's affective attitude toward nature | 2012 | Florida | Environment and Behavior, 44(1), 31 - 49. | Measurement. Defining Connection to Nature |

Given the strong influence parental attitudes have on their children's activities and attitudes, especially during early years, the purpose of this study was to investigate the relationship between parental attitudes toward nature, parental attitudes toward their children's outdoor recreation, and the amount of time their children spend in outdoor free play activities. The survey results indicated that parents had an overall positive view of nature and an overall positive view of their child(ren)'s outdoor recreation. The majority of the study children spent between 30 and 60 minutes in outdoor free play per day, which offers less than the recommended 60 minutes of physical activity per day. Statistical analysis found a moderate, statistically-significant relationship between both parental attitudes towards nature and parental attitudes towards their children's outdoor recreation and the amount of time they reported that their children spend in free play outside.

The major purpose of this study was to develop a reliable and valid quantitative measure of children's attitudes toward outdoor play in nature. The authors developed Attitudes Toward Outdoor Play (ATOP), with two interrelated and valid scales as outcomes. One scale measures children's attitudes toward the benefits of outdoor play in nature, the second measures children's fears. The study found that children tend to have both positive attitudes and some fears, with the greatest reported fear being exposure to adults with drugs. The authors developed the scale in six steps: (1) item generation based on a comprehensive literature review and consensus among the project team, (2) interviews with environmental educators, (3) initial pilot testing, (4) scale refinement, (5) administration during 2012 and 2013 to a sample of school children ages 9-13 (n = 362) in Milwaukee, WI, USA, and (6) quantitative psychometric evaluation. The children were primarily male (51%) and the majority identified as Hispanic or Latino (83%). The authors did not report further racial breakdown of the sample.

This study, therefore, aimed to identify modifiable factors in early life that predict outdoor play and screen-time (a sedentary indoor activity) in 2- to 5-year old children. This longitudinal study was based on five-year follow-up data from the Healthy Beginnings Trial undertaken in Sydney, Australia from 2007 to 2013. A total of 667 pregnant women were recruited for the study. Data was collected by way of in-home interviews with each mother by trained nurses at five different time periods: First during the pregnancy (at 30 – 36 weeks) and then at age 1, 2, 3.5, and 5. Additionally, a telephone survey was conducted when each child was 6 months old. Findings indicated that mothers' screen-time during pregnancy and children's daily screen-time at age 1 predicted children's daily screen-time across ages 2 to 5. Mother's physical activity level, a baseline understanding of the importance of playing with her child, and practicing tummy time daily predicted children's outdoor playtime across ages 2 to 5. These findings indicate that mothers played an important role in their children's outdoor play and screen-time in the first years of life, and that children's early exposure to screen devices could be associated with their later screen-time. The implications of these findings include the idea that the modifiable predictors of children's physical activity level and amount of screen time identified in this study may help inform the development of early intervention programs for improving the health and well-being of children.

The aim of this study was to develop an index that would measure children's connection to nature based on past research findings and theories. The authors tested this index to understand its validity and usefulness in terms of assessing children's connection to nature including their emotional, cognitive and behavioral inclinations. The target population for the index was fourth grade students and was, in part, developed to satisfy the evaluation needs of an ongoing environmental education program located in Florida. Of the 1,432 survey participants, 26% were categorized as fourth grade students. Thus, the data findings reflect the survey responses of 372 students. The index found that children's connection to nature is influenced by the natural environment near a child's home, family's attitude towards nature, positive experiences in nature, and knowledge of the environment. Connection to nature within this study was defined by a measure of enjoyment of nature, empathy towards other living creatures, sense of oneness (viewing one's self as a part of the natural world), and responsibility for taking care of nature. Children who possessed a high connection to nature were more likely to spend time outdoors in nature and were predicted to participate in more pro-environmental behaviors. Additionally, children's sense of self-efficacy, or perceived ability to succeed at a particular task, was a strong predictor of connection to nature. Related to pro-environmental behaviors, if children are empowered to take action on behalf of the environment, they are more likely to participate and continue participating in those pro-environmental actions. The authors cite previous research that links children's sense of self-efficacy and participating in pro-environmental behaviors.



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