

Nature Play Symposium

June 10 and 11, 2015

City of Boulder, Colorado

Presenters:

Louise Chawla - Professor Emerita, Environmental Design Program, University of Colorado (CU Boulder)

Robin Moore - Professor of Landscape Architecture, College of Design, North Carolina State University



Boulder Parks & Recreation Department

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Nature Play Staff Team & Volunteers:

Jeff Dillon - Project Manager

Tina Briggs - Staff Lead

Erynn Simone

Judy Evans

Doug Godfrey

Christy Spielman

Vanessa Schatz

Jayson Swigart

Dean Rummel

Alison Rhodes

Becky Clay

Volunteer Artist

Jeff Haley - BPRD

Jerry Shapins - ASLA

Tim McGinty

Craig Stoffel - ASLA, DHM Design

Deryn Wagner - ASLA, OSMP

Mark De La Torre - ASLA, MIG

Simon Bialobroda - Bialobroda Architects

Jen Gee

Panel Members

John McCluskey - Principal Horizon K-8 Charter School, BVSD

Tori Derr - Senior Instructor, University of Colorado, Environmental Design School, Growing Up Boulder

Kerri White - Landscape Architect, Principal at Urban Play Studio

Photography

Photographs for the public workshop and lecture provided by

Darcy Varney Kitching, M.Ed., MURP

<http://www.placesmakepeople.com/>

Photographs for staff workshop and nature play examples provided by various staff members



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Section One

Introduction



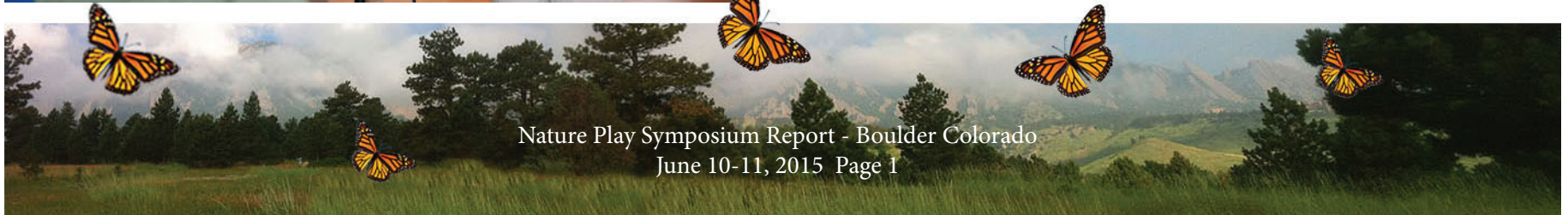
During the week of June 10th through June 12th the City of Boulder hosted a nature play symposium with international experts Louise Chawla and Robin Moore along with staff and community members to develop a common understanding of nature play and nature play spaces for our children.

The purpose of the weeklong symposium was to bring together the various agencies, non-profits with community members to develop a common understanding of nature play and the importance of nature in childhood development. The second goal was to develop

an ongoing coalition of city departments, non-profits, Boulder Valley School District and citizens that share common interest in nature and who can work together to promote nature play in a coordinated effort. The final goal was to gather community wide input on design concepts for nature play spaces within the Civic Area.

Three events were held regarding nature play and access during the week including:

- **Nature Play Community Workshop** - Wednesday, June 10 from 5:00 - 8:30 pm at the Boulder Museum of Contemporary Art (BMoCA). The workshop brought together a mix of all age groups interested in nature play to help develop design concepts for the Civic Area Nature Playground.
- **Staff Workshop** - Thursday, June 11 from 11 am – 1 pm at the Boulder Main Library brought staff from various departments to discuss current work related to nature and identify opportunities to collaborate in the future.
- **Lecture and Panel Discussion** - Thursday, June 11 from 6 - 9 pm held at the Boulder Main Library in the Canyon Gallery and Theatre. The lecture focused on the benefits of nature play and the importance for children to connect to the outdoors at an early age.



For the past three years the city has been working to develop a vision and master plan for the Civic Area. On June 16th City Council accepted the final master plan update, which included “Park at the Core” concept where Boulder Creek serves as the defining feature that establishes much of the natural beauty of the Civic Area. The plan further states that Boulder Civic Area is a central place to enjoy the outdoors in the middle of the city. The linear “green” along Boulder Creek will be a unifying focus, providing natural beauty, ecological functions and flood safety as well as recreational, art, and cultural opportunities within nature. The community supported the development of this plan through the passing of 2-A ballot initiative last fall and staff and a consultant team are currently developing design drawings for the initial development that includes a nature play and learning space along the south of Boulder Creek.

Boulder has long been a leader in conservation and preservation of natural areas in and surrounding the city. Boulder staff, Colorado University and federal research institutes are at the forefront of climate research and natural systems exploration. With 45,000 acres of natural open space preserved by the City of Boulder provides one of the highest per capita ratio of natural lands per resident – with 45 acres per 1,000 population (TPL and NRPA survey data).



In addition Boulder is often cited as one of the healthiest places to live, most active and least obese in many national studies. Despite our leadership in nature and healthy lifestyles, Boulder and Colorado is not exempt from the concerns about childhood inactivity and limited access to the outdoors.

- According to recent studies Colorado has the fastest growing rates of inactivity and obesity in the nation.
- A recent finding shows that 80% of Denver Metro Area students have not been to the Rocky Mountains





The intent of the symposium was to learn about nature play and how important nature places are to our children. Nature play is interaction with the natural environment that allows for hands-on contact, exploration, contemplation, and education. Nature play can take several forms, in natural area parks and greenways off-trail, in traditional play areas that incorporate or emulate natural materials and processes, and in our own backyards.

One of the most important contributions we can make as a city is to offer opportunities that promote community health and wellness for our youth and to encourage youth and their families to engage in outdoor activities.

The nature play project is a multi-departmental effort coordinated by Boulder Parks and Recreation in collaboration with Open Space Mountain Parks, the Boulder Main Library and Public Works. Nature play promotes daily contact with our natural environment and outdoor spaces and is a vital element for BPR's focus on providing recreational and educational opportunities for community health and wellness. Nature play is also at the core of our commitment to enhance the quality of life of all Boulder community members through abundant access to green spaces. For more nature play event information, please visit:

Boulder Parks & Recreation Web Site

<https://bouldercolorado.gov/parks-rec/nature-play>

Growing Up Boulder Web Site

<http://www.growingupboulder.org/civic-area-2014.html>

Co-Design information by Stanley King and Susan Chung

<http://www.growingupboulder.org/co-design-method1.html>



Presenters

Robin Moore is a landscape architect, design researcher and lead author of the national guidelines for nature play entitled, *Nature Play and Learning Places*. Dr. Louise Chawla is a professor emerita at the University of Colorado's Environmental Design Program having help establish Growing Up Boulder (GUB). Her work includes, "Childhood Experiences Associated with Care for the Natural World," , "The Development of Conservation Behaviors in Childhood and Youth" (co-authored with Victoria Derr), and "Benefits of Nature Contact for Children." Both bring a lifetime of professional experience on the importance of nature play opportunities in the urban setting.



Moore is Professor of Landscape Architecture, College of Design, North Carolina State University, and Director of the [Natural Learning Initiative](#). He is a landscape designer, researcher, and lead author of *Nature Play and Learning Places* - the national guidelines

published with the National Wildlife Federation. Moore is former president of the International Play Association, and author or co-author of books and scientific articles in the field of children's outdoor environments. He holds degrees in architecture (London University) and urban planning (MIT). In 2012 he was elected Honorary Member of the American Society of Landscape Architects.



Louise Chawla is Professor Emerita in the Environmental Design Program at the University of Colorado at Boulder (CU Boulder), co-editor of the journal *Children, Youth and Environments*, and a member of the Advisory Board for the Children and Nature Network. When she served as a Fulbright Scholar at the Norwegian Centre for Child Research, she revived the Growing Up in Cities project of UNESCO, which remains

active in involving urban children in evaluating and improving their local communities. It is the model for the Growing Up Boulder (GUB) program, a current partnership between the City of Boulder, CU Boulder, Boulder Valley School District and multiple community organizations.



Section Two Workshop Summary



The community workshop on June 10th was held at the BMoCA community room with approximately 40 to 45 individuals attending. The format utilized the Co-Design process of collaborative learning developed by Stanley King and Susan Chung of Vancouver, BC, which involved small table groups of 4-5 community members paired with one park and recreation staff member and one volunteer sketch artist that drew up ideas generated by the table group members.



The agenda for the evening included:

1. Kick Off – introduction of process and table hosts and an overview of the Civic Area process to date and goals for the evening with introductions of Robin and Louise
2. Nature Play – A short definition of nature play, the importance of play to child development and nature play spaces was presented by Louise and Robin
3. Nature Play Favorite Place exercise #1- each individual was asked to draw or write about a personal perspective on a childhood place where they had connected with nature (PEP-Personal Experience & Perceptions)
4. Table Group Design Exercise #2– The remainder of the evening involved each table group working collaboratively on individual design concepts for nature play along Boulder Creek in the Civic Area. Each group developed a list of key themes or design elements and then developed sketches to illustrate these concepts. The evening concluded with voting on which element were the most popular based on three criteria below:
 - a. Love It – should go ahead and build
 - b. Needs more design thinking
 - c. Belongs somewhere else

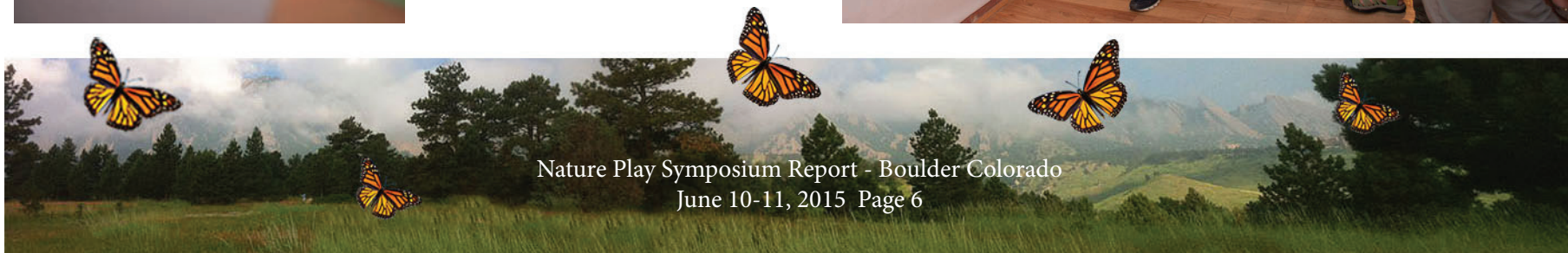


Exercise One - Your Favorite Place in Nature as a Child

(PEP-Personal Experience & Perceptions)

This exercise asked each person to draw from personal perspective on a childhood place where they had connected with nature. They were provided 8"x11" sheets of paper and asked to draw or write about their experience. They were then asked to place their drawing on a wallboard that had been attached to the wall (24' by 5' paper on wall). The wallboard had a diagonal line drawn across the paper that illustrated the urban/wilderness continuum with the area above the line more urban and below the line more wild. Each individual was asked to post their writings and drawings on the wall graph where they thought that they were most appropriate along the urban or wilderness continuum. Most of the responses placed images towards the middle of the wall graph and along

the line with a mix of urban and wild experiences. There were few that felt that their first experience was totally in the wilderness and many found that their memories were of close to home areas – sometimes in their own backyard.



Exercise Two – Table Group Design Concepts

Each table group developed key design themes and features based on personal experiences with nature, their understanding of the natural areas in the Civic Area along Boulder Creek. The groups were provided background information on the Civic Area as well as the community engagement done by CU Environmental Design School -Growing Up Boulder (GUB) with local school students (see appendix for attached materials) over the past three years. Participants were asked to imagine themselves in the place of their children and to “Think Like A Child” in developing design ideas that reflected what Boulder youth have identified as important to them.

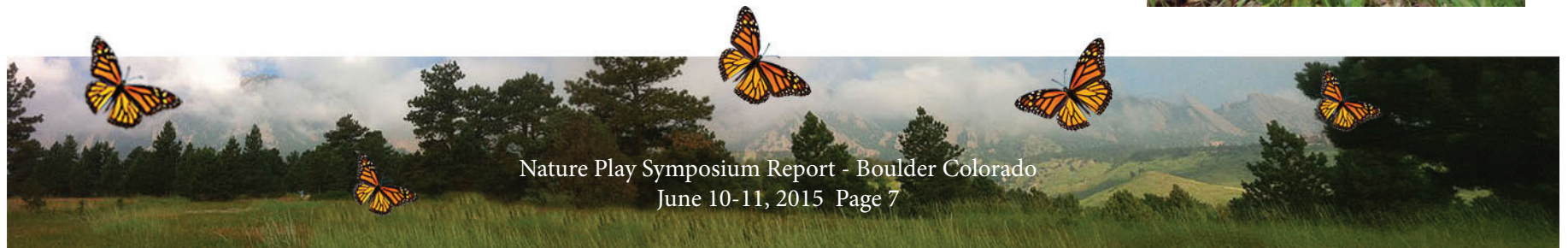
Growing Up Boulder (GUB) completed 4250 hours of community outreach with local school children from pre-school, elementary, middle and high school ages. This included (list schools here and get PDF versions of the posters for GUB). Key themes that came from this work with students included:

“I saw there were butterflies. I want there to be lots of butterflies! We can just call them to come and then they will come. We can plant plants they will like and they will come.”

BJS/preschool

Restoring nature to increase biodiversity, wildlife habitat, and creek health.

Children expressed a natural inclination toward stewardship and protection. We heard this from Boulder Journey School children to high school. Preschoolers wanted to make habitats and shelters for ducks. Middle and high school students wanted streambank restoration, more riparian vegetation, and zones of protected areas or limited use along with zones for creek play and interaction. High school students were concerned about connectivity and the creek serving as a wildlife corridor if too much development occurs along it.



Nature play as an integrated component to other types of play or activities - Children suggested a wide range of activities, including natural boat building, reading in a treehouse with the sounds or views of birds and the creek, studying near flowers, ways to swing across the creek or better hop across it from rock to rock. Most children's vision for nature play was one of playing IN nature, not playing in a naturalized playground.

"We designed the treehouse because we want kids to interact with nature and art. We want them to see the world in a different view and angle. To get to the treehouse, you climb up a moss-covered ladder into a house that is made of a tree. Flowers are everywhere because it's beautiful and they camouflage them. This treehouse is important because kids from boulder appreciate nature and love to play. Not everyone has a treehouse in their own backyard"

(Whittier, 3rd grade)

Protected Water Play - Many ages wanted to see a protected water play area "for young children," with sand and ability to tunnel and manipulate water in a variety of ways. The important thing about the swimming area is that it is fun for the public. It has a water fountain in the middle and a cement boundary above it where you can see Boulder Creek. It has a pool where you can swim, it is surrounded by grass. But the important thing about the swimming area is that it is fun for the public.



Nature Play as Symbolism - Children also wanted to see animals represented in the park, through sculpture gardens or play structures shaped as animals. One Whittier student's vision was for a sculpture area with Boulder's wildlife, river otters, bears, mountain lions, etc. that children could play on while at the same time celebrating Boulder's wildlife. Climbable Statues.

"We designed an animal zoo for climbing. We have two dogs, a bear, two goats, two gazelle, a dragonfly, and two lizards. The zoo is connected to a bear and a bear cave by a pond. Kids can jump in the water on hot summer days. We also planted a lot of plants along with the climbing statues so that kids are in nature as they play. This is a really good thing for kids because they love to climb and it's great exercise!"

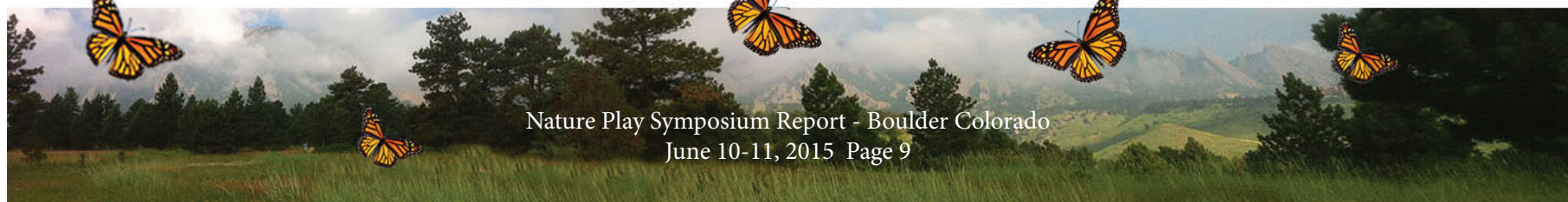
[Whittier, Third grade.]



Cultural Heritage - An interactive space that can bring all races together (middle school). Incorporate the cultures of the future with symbols of Boulder's Mexican-American, Tibetan-American, and Vietnamese-American (secondary school). "One of the guiding principles of the Civic Area redevelopment is to celebrate site history but there is no mention of Native Americans. Their history should be recognized in the Civic Area redesign." (BHS, 2012)

"The idea behind this is that families can sit down and relax and watch nature. There are a lot of different cultures in our town, but there aren't objects that show all the different cultures. We think this is important so that people can feel and learn about different cultures. People will be more knowledgeable about the world when they visit our bench"

(Third Grade, 2014).



Summary of “Likes” Exercise

Each table group started with a discussion of the design elements that they liked as a child growing up as well as a review of the GUB work displayed on each table. Key words that were repeated are identified in the word cloud to the right by larger text as with water, places, play, nature, kids, climbing, security, spaces, rocks, sense area, bugs, education, edible, tree and spaces. These phrases and words were used during the remaining portion of the workshop to create combinations of play experiences linked to the creek and nature.



Summary of Working Tables Findings

Consistent with the findings from GUB and their work with the children of Boulder the working table groups identified the following key design elements shared by each group. These elements also received the highest number of positive votes during the workshop review as well as at the lecture on Thursday night.

The key elements include:

- 1. Water Play** – Boulder Creek is at the core of the Civic Area master plan and each group identified design elements that would enhance access to the creek or water in a safe and ecological balanced way. This included Crazy Creek water play, sand play, water park, water diversion and enhanced creek alcoves and eddies. Related to water play was the recognition of the seasonal fluctuations of stream levels and the need to create safe environments and barriers to limit risk and danger during high water periods. There was also the recognition that water education was an important component for safety as well as with the impacts from floods and drought. Some of the simplest ideas included areas that children could mix soil with water to create MUD.
- 2. Nature Play** – All the groups identified design elements that incorporated nature in a variety of ways with learning opportunities – especially linked with the library. Tree houses and places to sit and read were high on the youth desire and were reflected in the sketches of the various



table groups. Ideas included tree house, climbing towers set in the tree tops, makers spaces for creative play, natural adventure play, tunnels, secret spaces to hide, mounds and varied topography for climbing and rolling, islands, tree forts, and reading nooks in trees or alcoves. Above all the groups designed flexible spaces with moveable parts that allowed children to explore and “get dirty”.

- 3. Biodiversity** – Just as our youth recognized the need to allow this highly urban space to be as diverse as possible each working table developed design concepts that included natural elements. This ranged from sensory gardens for touch, smell and edible plants that were also bee friendly, Boulder bug exploration, native plants, children gardening, stream restoration, seasonal opportunities, and natural loose parts that can be manipulated.



- 4. Nature Play as symbolic** was also a recurring theme in the table groups. This included Sherwood Groves, Boulder Boulders, Magic Mountains, Crazy Creek, and climbing platforms in the tree canopy in place of a tree house actually built in a tree.
- 5. Social and Cultural Heritage** were also represented in many of the table group designs including gathering spaces, fire pits, outlets for music and drama, inclusivity for all age groups – multi generational – and a social swing. One of the key elements recognized by all groups was the importance of places to meet up, to gather, sit and watch and be part of the overall park experience for all ages.

There were also a number of other design elements that were illustrated at the workshop including the need to keep it simple, provide adult leadership and programming for learning opportunities, nature play pipes, outlets for music, moveable natural materials for building, a kids only zone with trained facilitator and a Play Mobile for Pop-Up Play. While these items were not consistent across all the groups they do represent areas of nature play that should be considered in the final design process.

The following pages illustrate each table group key design elements and drawings as well as the combined scores from the workshop on June 10th and the general public comments from the lecture on June 11th.



Design Guidelines

The following are general design guidelines that were identified through the workshop process.:

1. Provide for a variety of safe water play areas along the creek as well as areas away from the creek for smaller children
2. Provide a unified series of experiences for all ages along the south side of Boulder Creek from 9th Avenue to Broadway using affordance and territorial concepts
3. Create individual play spaces with each of these zones that are age appropriate
4. Place seating and gathering areas in various configurations along and between the play zones including areas for single, couple, small group and family gathering spaces
5. Integrate learning opportunities through programmable space with individual self exploration
6. Utilize natural materials such as stone, wood and plants to create a sense of connection to nature



Workshop Results



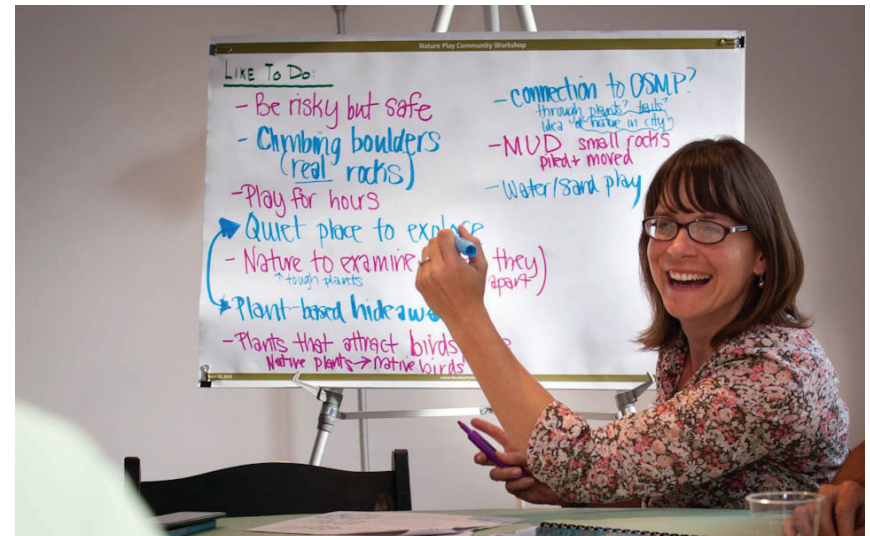
Work Table Group 1

Neverland – Jerry Shapins – Artist

Table Group Members:

Design Elements	I love it Go for it	Needs more design	Belongs Elsewhere
The Magic Mountains	14	4	1
The Boulder Boulders	16	2	
The Sherwood Groves	15	1	
Maker Space / Natural Adventure Play	14	2	
The Crazy Creek / Water Play	18	1	
Native Plants	17		
Real & Simple	16		

The key design elements for this working group focused on extending safe water play away from the creek with artificial channels that could hold flood waters at high water times while providing a dry river experience during most of the year. The drawing on the opposite page provides a variety of natural play areas using symbolism such as Magic Mountain, the Boulder Boulders and Sherwood Groves. The Crazy Creek water play and native plants scored the highest for this design.





Working Table Group 2

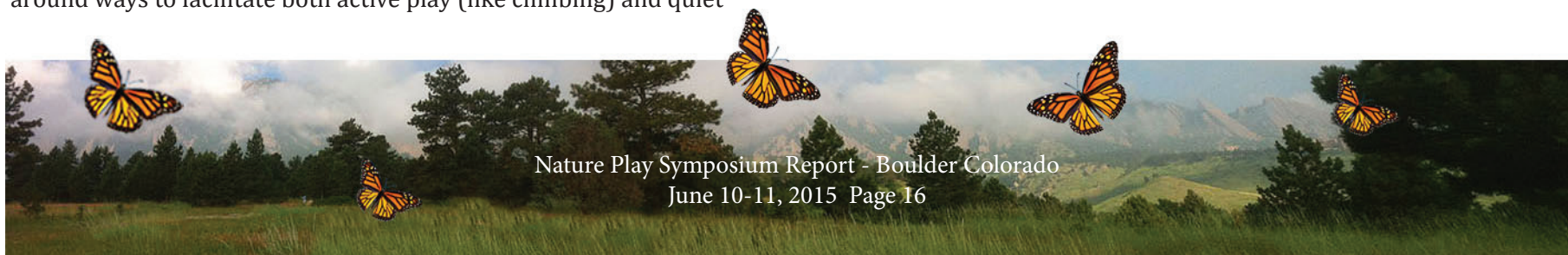
Deryn Wagner and Jennifer Gee – Artist

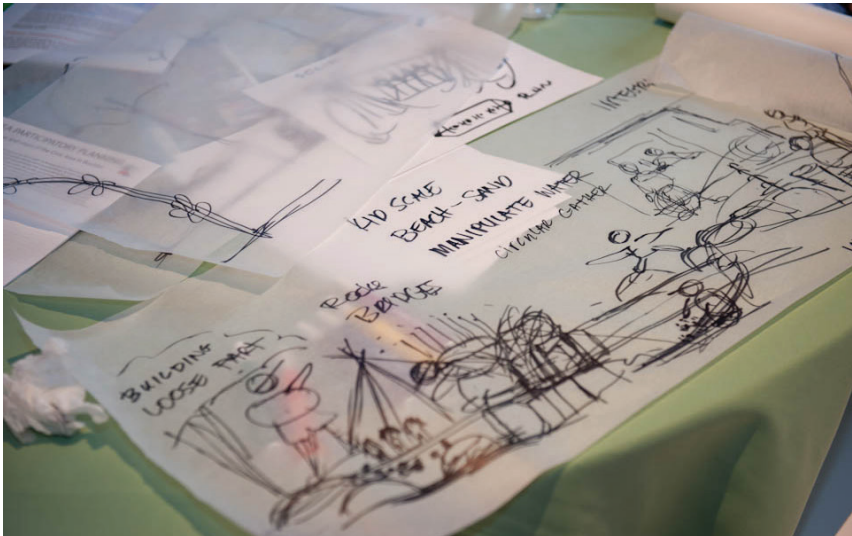
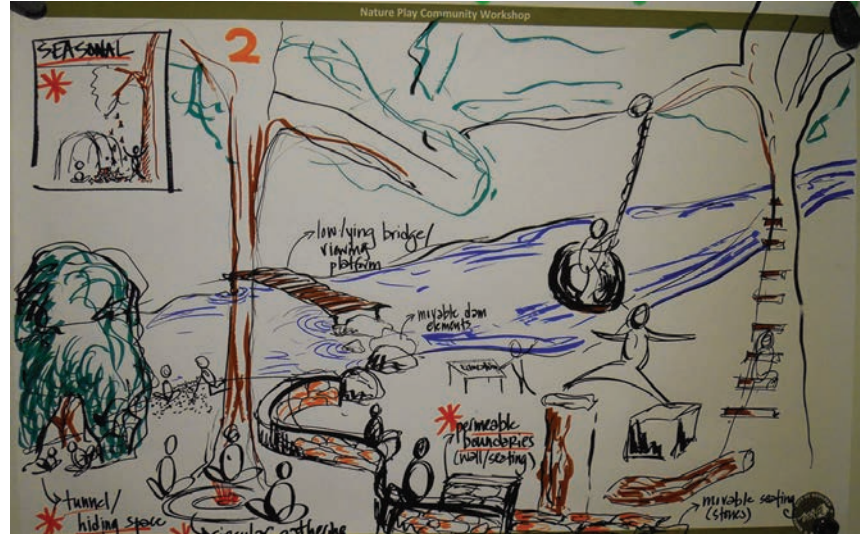
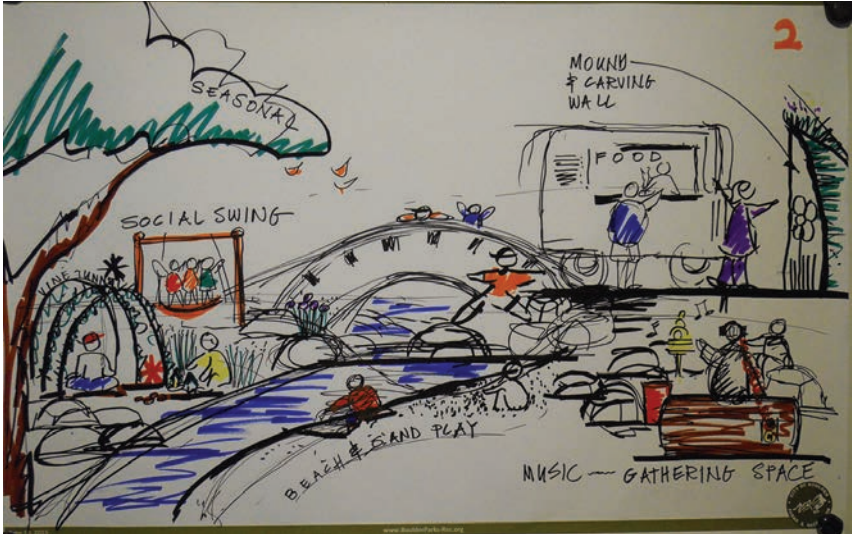
Table Group Members:

Design Elements	I love it Go for it	Needs more design	Belongs Elsewhere
Seasonal consideration for design elements – what happens in the winter?	9	8	
Tunnels / secret spaces / privacy	19	3	
Gathering spaces (fire pits, electricity) round multilevel all natural outlets – outlets for music	7	6	
Permeable / semi-manipulative boundaries	12	5	
Natural construction – water access, sandy, dam building, digging, forts	20		
Mound and carving wall	12	4	3
Social swing	11		5

The key design elements for this working group focus on using natural materials for construction and to enhance water access with sand play, building areas, and forts. Other elements included opportunities to view and engage with the creek from above, such as low-lying bridges or platforms. Discussion also centered around ways to facilitate both active play (like climbing) and quiet

engagement (seclusion) for multiple age groups, including permeable boundaries (like seat walls and movable seating) to separate these areas. Creative play was a focus of the following drawings from the group.





Working Table Group 3

Craig Stoffel - Artist

Table Group Members:

Design Elements	I love it Go for it	Needs more design	Belongs elsewhere
Tree Climbing	22	4	1
Stream Crossing	14	8	
Get Dirty	26	1	
Water Park – Play	20	5	
Learning Opportunities	8	6	9
Pedestrian Bridge	3		
Jetty	1		
Star Gazing			1

The key design elements for this working group focus on getting dirty, tree climbing and water play. Adventure play with access to water were the focus of the two drawings on the following pages.





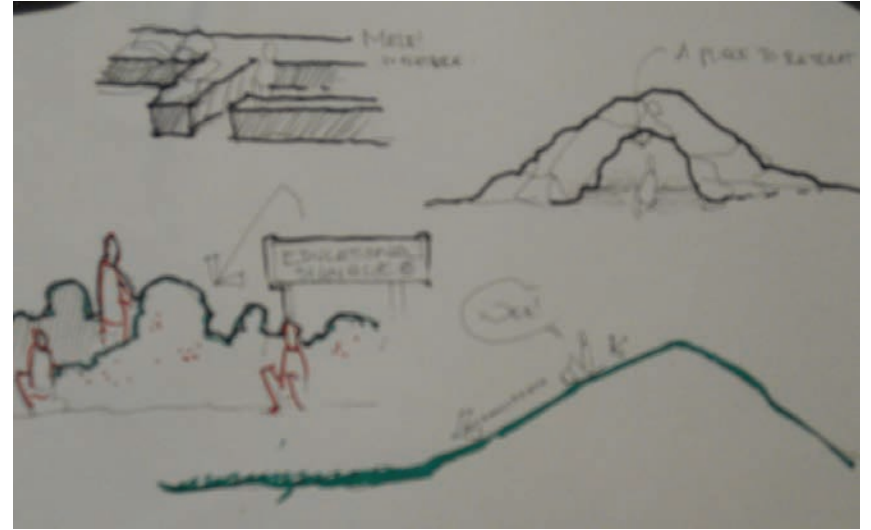
Working Table Group 4

Mark De La Torre – Artist with Jeff Haley
Table Group Members:

Design Elements	I love it Go for it	Needs more design	Belongs elsewhere
Water Diversion – embrace change, seclusion	18	6	
Varied Topography	20		
Moving Stuff – finding, building	17	2	
Sensory Garden – smell, edible, musical	16	6	
Adventure Play – tunnels, islands, tree forts	21	3	
Inclusive – all age groups	11	4	
Encourage culture awareness	7	3	

The key design elements for this working group focused on adventure play, varied topography and water diversion. Moveable parts and sensory experiences were the focus of the drawing on the opposite page.





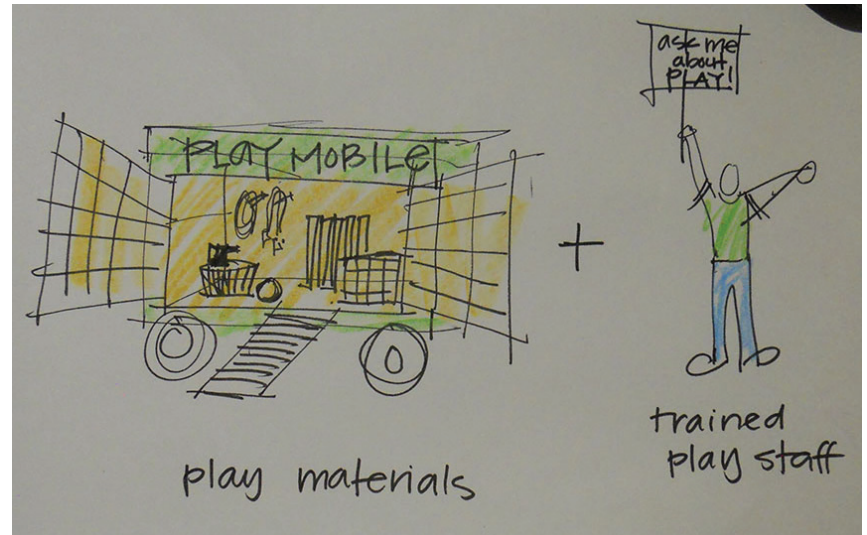
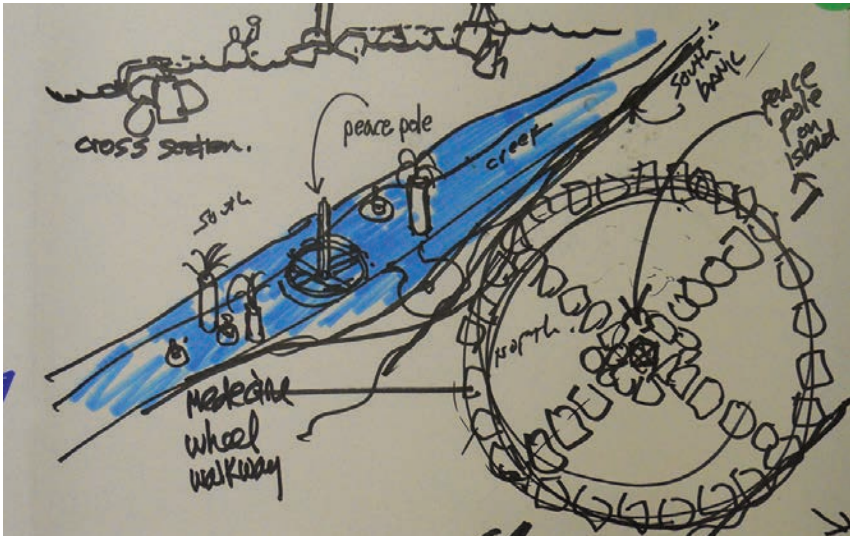
Working Table Group 5

Simon Bialobroda - Artist
Table Group Members:

Design Elements	I love it Go for it	Needs more design	Belongs elsewhere
Nature Play Pipes	3	9	5
Boulder Bug Exploration & Investigation	11	5	2
Safe Boulder Creek Exploration Opportunities	14	2	1
Water Climbing Wall	4	3	5

The key design elements for this working group focused on safe experiences and exploration of the environment with hands on activities. Water experiences were the focus of the drawing on the opposite page.





Working Table Group 6

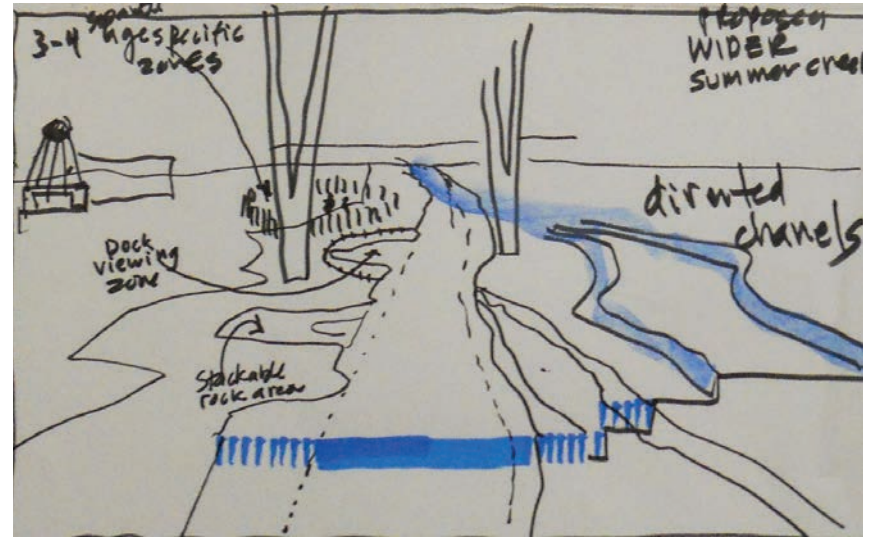
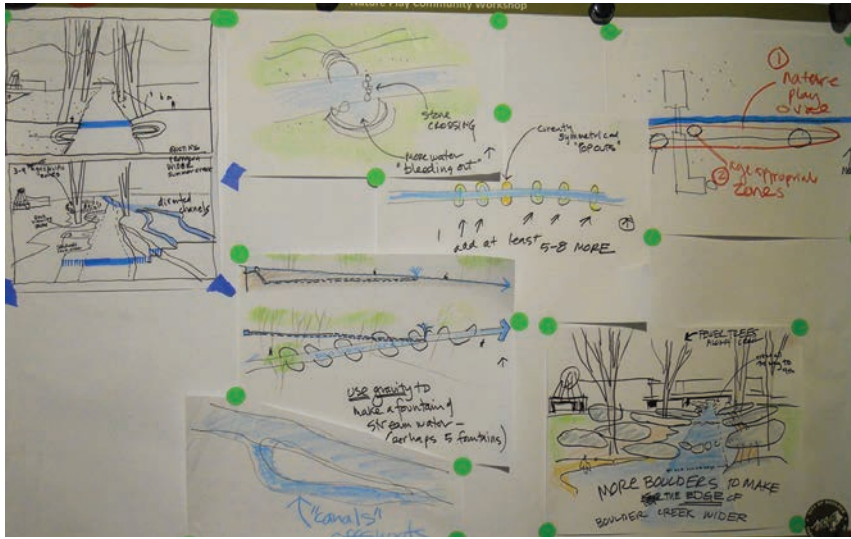
Tim McGinty - Artist

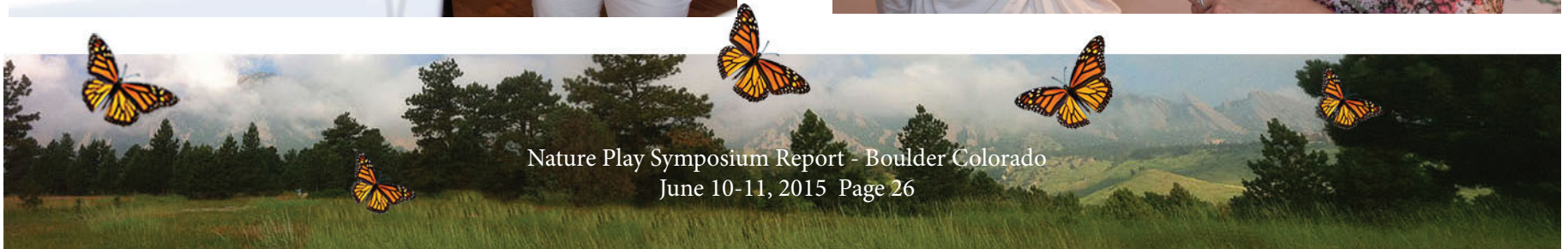
Table Group Members:

Design Elements	I love it Go for it	Needs more design	Belongs Elsewhere
Moveable Parts – kids only zone with trained play facilitator	13	6	
Channel Diversions off creek	18		
Tree Houses with library reading nooks	15	2	3
Play Mobile for Pop-Up Play	4	6	9
Maintain/Enhance/Increase Creek Alcoves	17		

The key design elements for this working group include water diversion, tree houses and enhancement of creek access. Kids only zone with moveable parts were the focus of the drawing on the opposite page.







Boulder City Staff Workshop



Approximately 35 staff attended the two hour work session on June 11th from various departments including parks and recreation, open space and mountain parks, transportation, library and arts, risk management and community planning.

The purpose of the staff workshop was to provide an overview of nature play spaces and importance to child development as presented by Louise and Robin. This included managing zones of parks as “wild spaces;” designing neighborhood streets to be green, “complete,” and child friendly; integrating nature play and learning in residential areas—housing form and housing density; making school grounds into nature play and learning places; childcare centers as a top priority—impacting young brains and bodies; and the importance of having nature in the city to children’s health and development.

Goals for the workshop included:

1. Understanding of the importance of access to nature and opportunities for learning through actual hands on experiences.
2. Benefits of free play, visuals of educational, collaborative

learning, facilitator approach, interactive approach – play focused on some key species or ecological elements – not traditional approach (see Nature Play Corp Report)

3. Establish next steps for city collaboration on nature and nature play spaces

Nature Play Discussion

Robin and Louise provided a short overview of the importance of nature play in child development. This included (review power point)



Natural Area Preference Survey

Following the overview by Louise and Robin staff participated in a mapping exercise to identify their favorite natural area and urban space within the city. This exercise asked each staff to place a colored dot on the map of Boulder representing their favorite natural area (green dots), their favorite urban area (red dot) and to identify opportunities for expanded nature play opportunities within the urban boundaries (yellow dot). The most favored urban spaces included Pearl Street Mall and the Civic Area / Farmer's Market. The most favored urban natural areas included Boulder Creek (Eben G. Fine Park), Chautauqua Park and Open Space, and Boulder Reservoir North Shore and Coot Lake. Areas identified as having potential for urban natural areas enhancement included Valmont City Park, Boulder Reservoir South Shore, Wonderland Lake Park, North Boulder Park, and Scott Carpenter Park.



Staff Discussion

Discussion with staff identified the following 4 key items:

1. Risk and how to manage the “we cant do it” mentality
2. Helicopter Parents – how to initiate change
3. Thinking Outside the Box approach
4. Partnership Opportunities

The first two items were discussed together. Risk – Balancing risk is important in child development. Children learn from experiences and risk taking is part of the experience. The adult role is to balance the level of harm that can happen -

Little ouches to big hurts - This is part of learning for a child – risk taking.

Important to limit serious harm, but not all risk

Balance management of spaces

Culture of fear – research does not support the level of fear perceived by parents

Media plays important role in increasing the perpetuation of this fear

Culture of change requires outreach to parents to help educate and inform them of the importance of risk associated with child



development. One example provided by Robin and Louise was the Family Nature Clubs of the Children and Nature Network.

<http://www.childrenandnature.org/initiatives/>

This includes a tool kit to establish nature clubs for families as part of neighborhood outreach.

http://www.childrenandnature.org/wp-content/uploads/2015/04/NCFE_En_2014.pdf

Thinking Outside the Box to implement change – Use a shift in the conversation – one example came from transportation talking about roundabout crossings – first response was it can’t be done – move

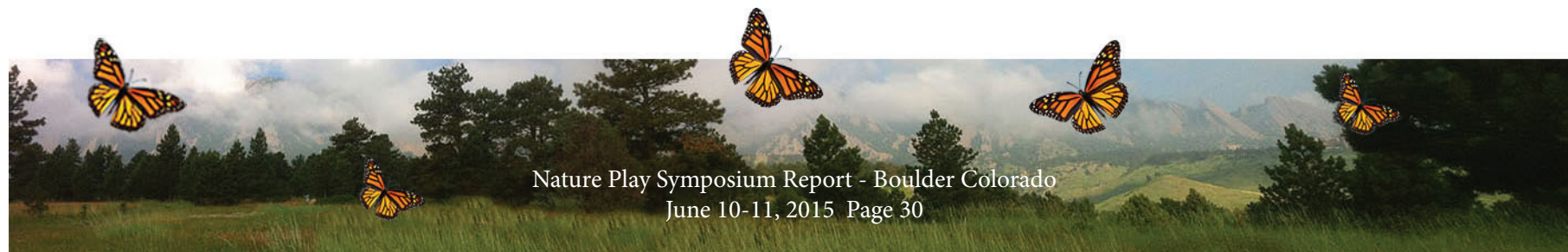


the discussion to safe crossings and it became feasible. Change management of parks – to allow unmanaged areas for Urban to Wild. Safe Route to Schools and Transit stops – path, green streets,

- Partnerships Included Urban Agriculture –development of community spaces
- Growing gardens
- Farmers Market
- U-pick gardens
- Partnerships – map out public/private
- Agencies, non-profits
- Transportation and 15-minute neighborhood
- Ecological inventory – green infrastructure
- Homeowner’s incentives
- Walkabouts – bike neighborhoods

Next steps include establishing a nature working group with key staff to explore how to expand nature play and nature play spaces in Boulder. This includes:

1. Review of risk management practices for natural areas and play space design
2. Identify other work groups including local foods, resiliency and neighborhoods who have secondary relationship with nature



Sectin 4 Nature Play Lecture

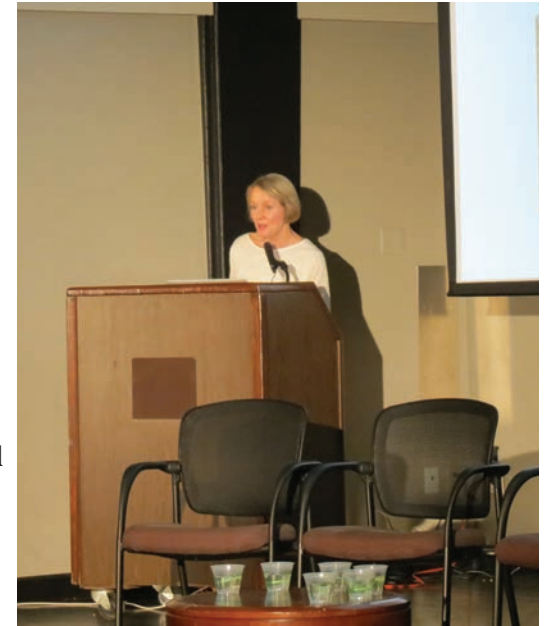


The June 11th evening event started with a reception in the gallery area of the Boulder Library with a display of drawings from the Wednesday workshop followed by a presentation on the current research on importance of access to nature by Louise Chawla and Beyond Boulder – case studies and images of nature play spaces by Robin Moore.

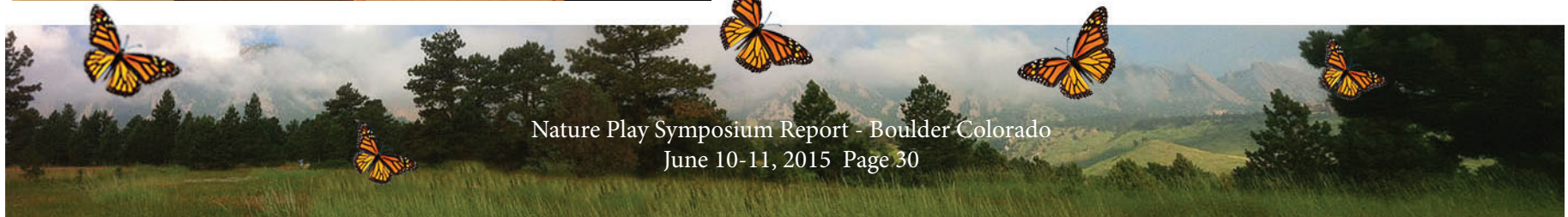
Boulder City Manager Jane Brautigam introduced Robin and Louise and provided a brief overview of the importance nature has played in the history of Boulder – “it is in our DNA” she said. Nature is a core community value and critical to our quality of life and the development of future stewards.



Louise started by stressing we have changed from a “Be home by dinner” family to one where the hours spent in nature are in decline. Richard Louv pointed out in the “Last Child in the Woods” that our children have lost connection to the natural world and spend only a few minutes each day outdoors (4-7 minutes).



She discussed the importance of nature for all – children and adults are healthier when exposed to nature and have lower mortality rates. They are happier when there are higher levels of activity and they are more productive. Children demonstrate higher critical thinking skills, have improved concentration, exhibit less stress, are more creative and have higher motor coordination when provided with time outdoors in nature. Quantitative and qualitative studies have demonstrated that early childhood exposure to nature enhances stewardship values as adults (a link to a scan of current research can be found at the Boulder Nature Play website). Gardening provides direct benefits through learning to grow and

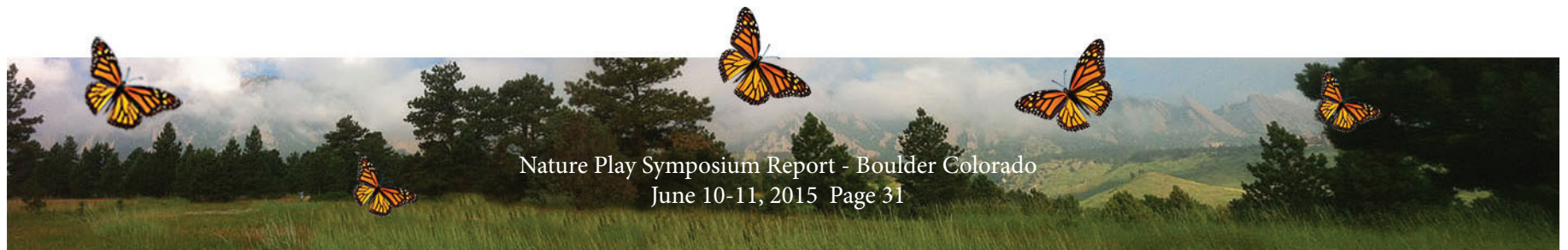
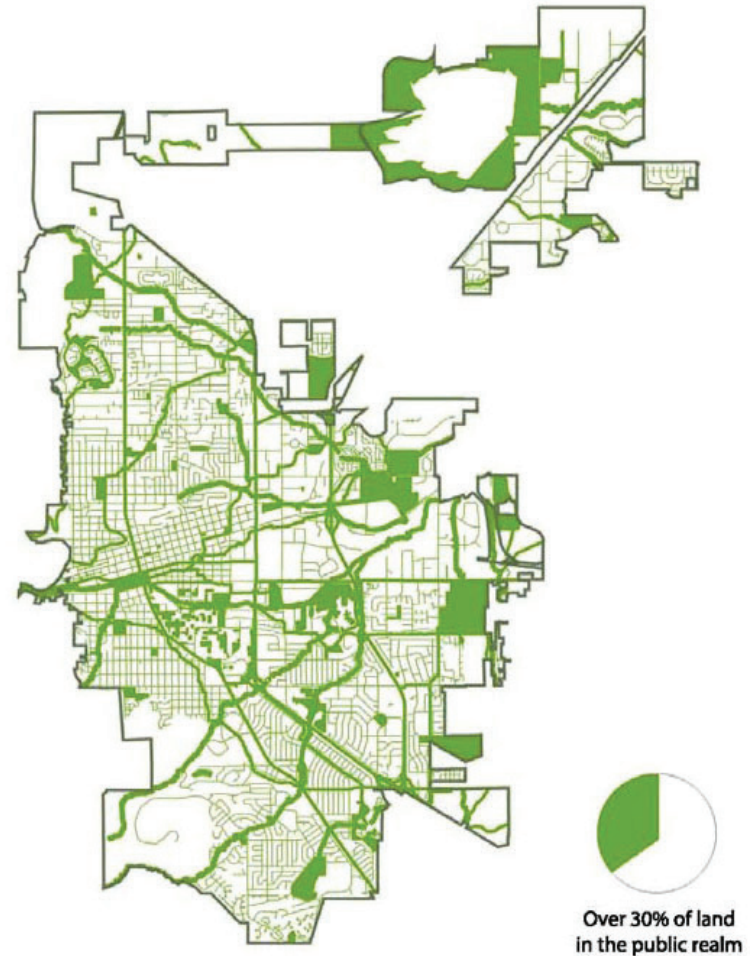


nurture plants, achieve higher science achievement and exhibit a more positive social and emotional skills and behaviors.

This is also a social equity issue in that children from low income backgrounds are more likely to spend time indoors in front of the television. A number of studies indicate that the benefits of contact with nature for low income disadvantaged or troubled youth are greater. The benefits of nature are greatest for those at the most risk, yet these groups have the least access to nature.

Biodiversity and the ecological benefits afforded through good community planning to preserve and enhance our natural places is critical to moving forward. Proximity to parks that are safe and have natural areas enhances physical and cognitive performance. The same principles developed by Fredrick Law Olmsted in his design for Central Park for health, social and sanitary benefits to a growing urban community are still relevant today. The Biophilic City points out the importance of linking nature to where children spend time. Green infrastructure can have many benefits including providing close to home nature areas in urban settings. Nature close to home allows exploration and the factor that there is always something new to explore and learn from. Louise stressed that these benefits are most beneficial when they are done in a pesticide free environment.

Boulder Valley Comp Plan Urban Greenspace Map





Robin explained that children must spend time outdoors for their good health and the health of our planet. If children don't grow up engaged with nature chances are they will never understand our dependency on the natural world. Nature play is a learning process – it is children working together to exercise their imagination. Nature play is the interaction with natural elements that allow for hands-on contact, exploration,

observation, and contemplation that results in learning and growth of the human spirit.

He talked about the importance of design, place and management to create dynamic and compelling places that attract children outside. This process includes three components centered with a community engagement process. The first is the site or place that is to be developed, the second is the design process and finally the way the site is managed to preserve the design intent for all users.

Robin stressed the importance of play-work in child nature play to facilitate unstructured play with nature and natural materials. This includes the concept of affordances – how children read the landscape and learn, activity settings that provide patterns of behaviors that are recognizable to the child and territorial range, which allows children to explore beyond their comfort zone in safety.



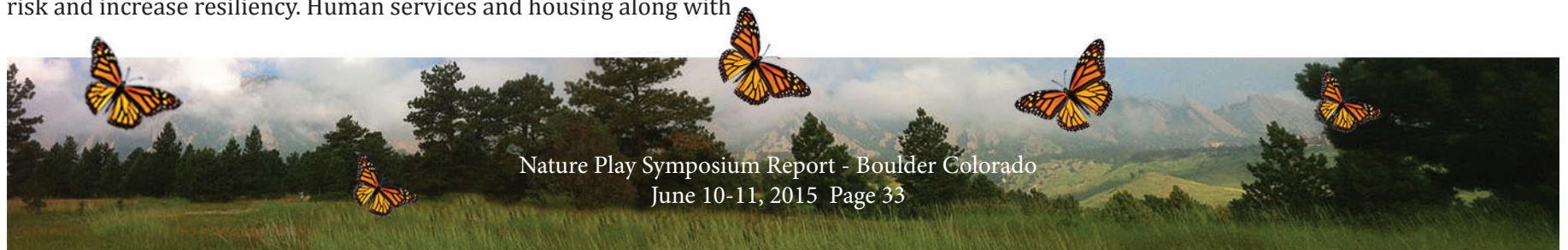
There is currently a national initiative to promote access to nature in cities, in which Boulder can be a model city. The sponsors include the Children & Nature Network along with the National League of Cities. The city participated in the survey to identify current efforts towards nature including preservation of natural areas, programs, services and investments in nature play spaces.

Robin Moore and Louise Chawla discussed the importance of meet up places – those magical places where children can use their imagination in a graduated competency approach to risk taking. Sense of place is a critical component of nature play – understanding the world around them helps build competent adults. These areas are often referenced as settings where predictable patterns of activities build child competency.

Boulder is already engaged at a very high level in nature with many departments having a role in the process. Boulder’s urban parks and recreation system includes 1,800 acres of parkland with almost 50% in a natural or near native form. The city open space has 45,000 acres of natural lands managed for ecological values and outdoor recreation. The library and arts provide programs that link directly with nature. Transportation provides trails and safe routes to schools and has been providing walkabouts with neighborhood groups as does the greenway working with flood and water issues while providing green infrastructure to reduce flood risk and increase resiliency. Human services and housing along with

parks and recreation supports YSI and Expand programs to address community members with limited resources and access to nature.

One of the key opportunities is to expand the cities relationship with CU Growing Up Boulder program for youth engagement and outreach. The work that has been completed to date has built a framework for future collaboration both with the city as well as other non-profit organizations. This focus on ecological processes and nature should include work with local agriculture, bee safe neighborhoods, resiliency work and the new neighborhood position.



Some current examples that were discussed from other communities include the Toronto Home Grown National Park and the Family Nature Clubs. Minneapolis MN developed a nature program around ecological mapping of their community.

A panel discussion followed on the state of nature and children in Boulder and ideas on what we are doing today and future collaborative opportunities. Besides Louise and Robin panel members included: John McCluskey, Principal of Horizon K-8 Charter School; Kerry White, Landscape Architect, Principal at Urban Play Studio; Tori Derr, Senior Instructor, University of Colorado, Environmental Design Program, and Co-Coordinator of Growing Up Boulder; and Jeff Dillon, City of Boulder Parks



and Recreation Department. Panel members began with an overview of their background, current projects they are working on, partnerships and thoughts for future collaborative processes. Questions were collected from the audience and the evening concluded with Louise, Robin and panel members talking about next steps and opportunities to continue the collaborative process.

The following questions from the audience included:

1. How can nature play areas welcome children and families from all socio-economic backgrounds?
2. Do you have tips on how to maintain natural areas in urban settings that can be dirty (littered with natural materials) where clean up is unrealistic and detracts from why we are here?
3. How do we push back against policies that are overly concerned with safety and often produce environments that are sanitized and not always developmentally healthy for children?
4. How do you address risk management when designing nature play spaces?
5. How can we help other communities and school districts be on board with nature play and its benefits?
6. Can we have a larger nature play space in Boulder for school groups and nature organizations?
7. What can Boulder do better to promote nature play?



The full broadcast was recorded by Channel 8 and is available to view at the following site:

<https://vimeo.com/130786100>



Linking behavior to design

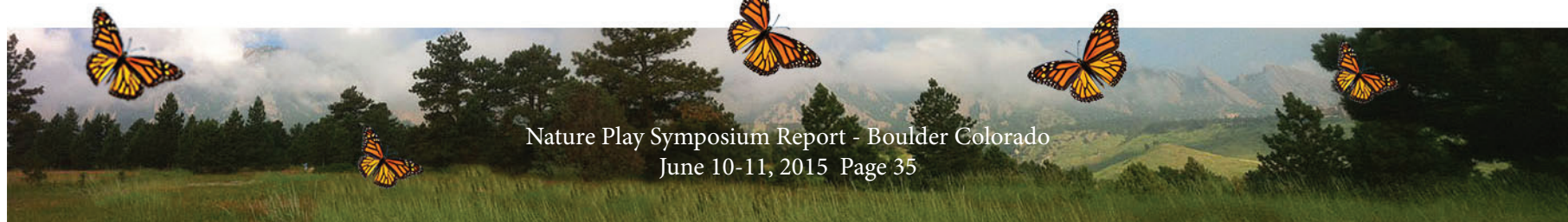
- ✦ Affordance
- ✦ Activity Setting
- ✦ Territorial range



A Tool for Guiding Development



Get those kids (and caregivers) outdoors!



Section 5

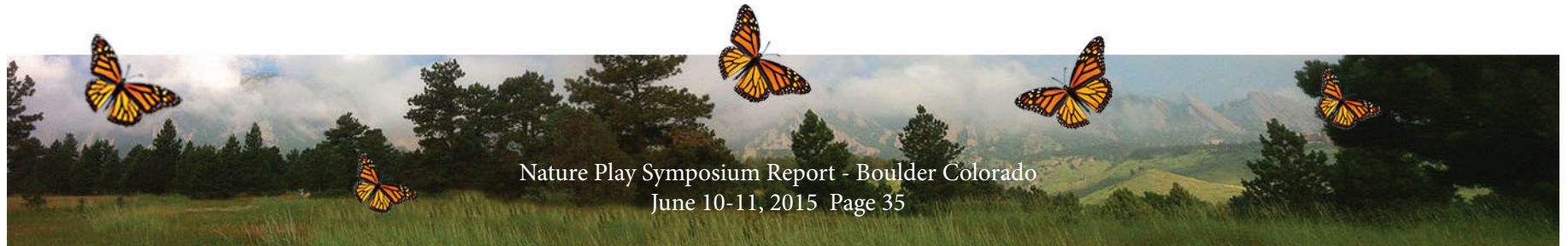
Next Steps



The purpose of the symposium was to engage local citizens, providers of nature play learning and staff from departments that are linked in some way to nature and nature learning. The two days of workshops and discussions brought over 100 different individuals together and many organizations to share their experiences and to learn from others. To that extent the effort was successful and new opportunities to expand the current work were identified. Additional goals included informing the Civic Area nature play design as well as to identify future projects to enhance nature play within Boulder. Following is a summary of immediate opportunities identified during this process including:

1. Coordinate with Civic Area Site Planning to develop nature play learning center with the library and Civic Area Park to promote nature play understanding. Development of natural play spaces in alignment with the master plan goals of nature and creek at the core in the civic area. This space can serve as an urban natural play space linked with Boulder Creek Path and surrounding parks (Eben G. Fine at the west to Scott Carpenter Park and beyond to the east). Action will include:

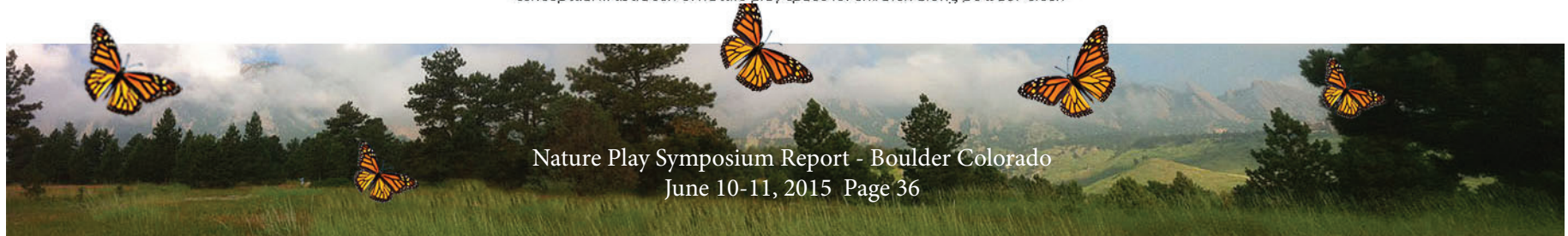
- a. Follow up with the design team and staff to develop guidelines for play spaces along the south side of Boulder Creek
 - b. Integrate with Boulder Creek Path improvements to identify ecological zones that provide opportunities for future nature learning experiences including Eben G. Fine Park to Scott Carpenter Park
 - c. Expand pilot nature play programs with parks and recreation and the library
2. Establish working committees to support continued efforts towards nature play in Boulder – link with existing organizations where possible to expand and support nature play efforts already underway including:
 - a. Follow up with existing staff who assisted in the development of the workshop as key leaders
 - b. Identification of other departments with shared interests that did not attend including greenways, resilience and neighborhoods to identify shared goals
 - c. Follow up with key stakeholders who attended the workshop and lecture including Thorne, Acorn, BVSD, Community Gardens, and others – use existing organizations where possible



3. Continue expanding relationship with CU Environmental Design Program – Growing Up Boulder for youth engagement best practices including
 - a. Review outcomes at quarterly meeting and identify future projects
 - b. Follow up with Burke/Horizon project including CU research and findings for next steps

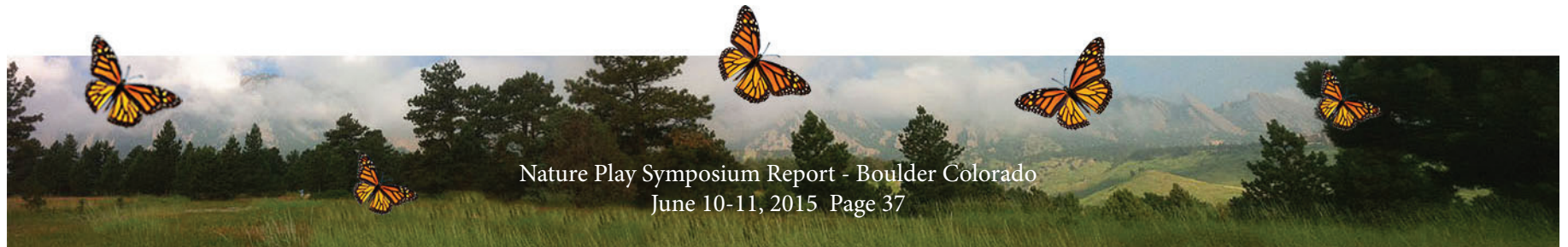


Conceptual illustration of nature play space for children along Boulder Creek



In addition to the above strategy items there are a number of other possible projects that Boulder could initiate including the following:

- Ecological Mapping – utilizing existing map data develop a city map that illustrates existing and potential opportunities for nature play learning opportunities within the city limits. This map would focus on natural systems including streams and drainage ways that have trails or greenways linking them with parks, schools and open space areas.
- Explore adapting the Home Grown National Park idea for Boulder as a means to bring together the current citywide grassroots movement such as pesticide-free lawns and gardens organized by Bee Safe Neighborhoods, local food and community gardening, as well as the city’s Integrated Pest Management goals that include natural landscaping, and opportunities to educate people about how to provide biodiverse forage and wildlife habitat in their backyards. Such an initiative would simultaneously promote home grown nature play.
- Green Infrastructure Workshop – look at work by Trust for Public Lands, the Conservation Fund, National Wildlife Federation and others on development of a more natural approach to management of storm water and drainage issues through Green Infrastructure. Link with the work currently underway with the Resilience Office and other related departments on this strategy for sustainability
- Pilot Neighborhood Project linking YSI programs with Boulder Housing Partners to expand nature play spaces and programs in adjacent parks and housing areas – identified by the ecological mapping exercise
- Establish nature play design guidelines by adopting the NWF Nature Play and Learning Spaces design guidelines by Robin Moore
- Look at establishing Nature Clubs for Families using the Children and Nature Network tool kit
- Work with state and federal land managers to understand their current projects and how they may be integrated into efforts to expand nature access including NPS new Urban Agenda, USFS and USFWS efforts
- Develop Best Management Practices for management of urban parkland natural areas using the General Maintenance and Management Plan
- Develop community story telling profiles of existing parks and our users to be displayed on the web – My Favorite Park or Natural Area
- Establish a nature user group data base and maintain contact on a regular basis
- Incorporate nature related projects into the volunteer coordination efforts – using BMP’s to expand natural areas biodiversity



- Work with Growing Garden and the Farmer's Market to expand children's gardening opportunities
- Look at expanding youth employment opportunities in development of natural areas and related native plant projects
- Work with key partners including BVSD, Thorne and others to expand nature play spaces and learning objectives
- Work with the National Wildlife Federation Denver office through Allen Cooper on risk management of play spaces
- Develop a Passport to Nature Play that will help connect children to nature, in Boulder and beyond, through unstructured activities in city parks or their own backyards.

