

**The Advantages of Access to Nature for Our Scouts**

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**Piedmont-Appalachian College of Commissioner Science**

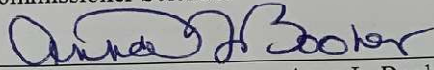
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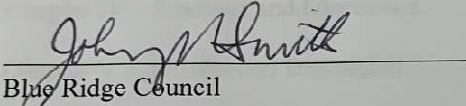
To the Doctoral Candidate Review Board:

I am submitting herewith a Dissertation written by William A. Bridgforth, Jr., entitled "**The Advantages of Access to Nature for Our Scouts**". I have examined the final copy of this report for format and content and recommend that it be accepted in partial fulfillment of the requirements for the Degree of Doctor of Commissioner Science.

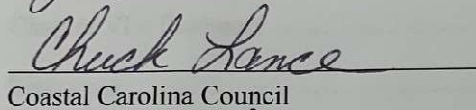


Anna L. Booher

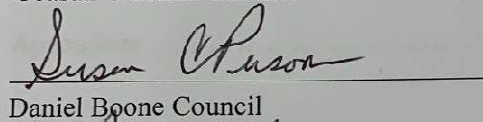
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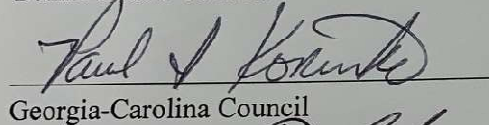
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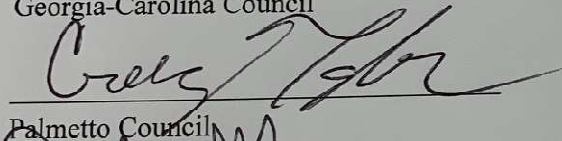
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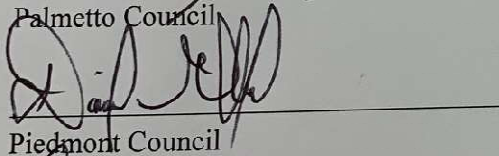
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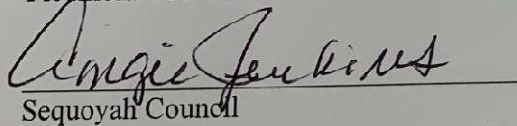
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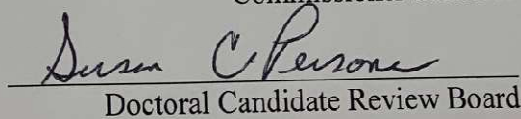


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Sequoyah Council

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## **ABSTRACT**

There have been discussions, studies, and books in the past two decades indicating the movement of youth from the out-of-doors to inside. The causes of this movement and the results of this change have made a significant impact on our youth. The ensuing problems include increase in medical and social issues such as ADHD, anxiety, depression, obesity, suicide, poor social skills – and the list goes on. I explore in this paper some reasons for the decrease in time spent outside, the benefits of being in the out of doors, changes in scouting’s requirements for “nature activity,” and ways and resources to improve the exposure our scouts have to Mother Nature.

# CHAPTER I

## INTRODUCTION

Human nature and spirituality have long been tied to nature and the out-of-doors. Martin Luther is credited with this quote: “God writes the Gospel not in the Bible alone, but also on trees, and in the flowers and clouds and stars” (Brainy Quotes).

Childhood has moved indoors. “Over the past two generations, both children's and adults' lives have largely moved indoors. Studies typically show that we spend some 90% of our time either in a building or in a car. That's very different than the free-range childhoods that a lot of grandparents remember, when the one rule governing their life was, “Be home for dinner.” (Diehn).

Karsten in 2005 came up with the term “backseat generation.” These are the kids that go by car to and from school and after school activities, such as sports team practice and games, music and dance lessons, and after school club activities (Karsten).

In 2005 Richard Louv wrote the book, *Last Child in the Woods* and is credited with the term “Nature Deficit Disorder”. The book was the landmark for pointing out that direct exposure to nature was essential for a child's health – both physical and mental. Since the time of its publication, there has been a growing body of evidence linking the decrease in exposure to nature to the rise in obesity, ADHD, depression, and other childhood ailments (Louv, p 10).

It seems imperative that we, as scouts and scouters, continue to push for more time in the out-of-doors and less indoor time for our youth. Our scouting programs need to emphasize outdoor scavenger hunts, games, nature hikes and the identification of the flora and fauna in our “woods.”

## CHAPTER II

### REVIEW OF LITERATURE

The book that years ago grabbed my interest in this topic was *Last Child in the Woods* by Richard Louv. Originally published in 2005, this treatise was a national best seller and the recipient of the 2008 Audubon Medal. Subtitled “Saving Our Children From Nature-Deficit Disorder”, Louv’s book changed the way people think about parenting and the future of our children. He pointed out that kids were spending way too much time in front of the television and their computer screens and not getting enough time in the out of doors. This was proving to be a significant cause of obesity, mental health issues, and multiple physical health problems.

Multiple online articles were reviewed. Particularly since COVID struck, the online references to problems among our youth have multiplied expediently. But COVID can’t take all or even most of the blame. It merely brought attention to a huge problem that has existed for years before the COVID pandemic.

I reviewed articles by child psychologists, child behavior specialists, naturalists with an interest in children and adolescents, teachers, family counselors and other child specialists. These papers discussed the changes in teaching, technology, parenting techniques, family dynamics, society and our world. All of which appear to have a significant effect on our young people.

These resources pointed out that our world has been changing – children and adolescents are spending less time outdoors, the family unit and time spent as a family have decreased significantly, children are more anxious now and under more stress, and our youth are much less social than previously. Our children are spending too much time

on social media and avoiding person to person socialization. They are getting unrealistic ideas about life and their peers. It is no wonder that they are struggling.

I also reviewed multiple books and articles on Boy Scout requirements and merit badges. Going back even to the 1911 Handbook, I have tried to summarize the nature and nature related requirements over roughly the last century. I point out what seems to be a decision by the scouting organization to decrease the exposure to nature that our scouts are required to receive.

## **CHAPTER III**

### **METHODS**

I searched the library and internet for information on multiple topics. I first gathered information on what our youth are doing now compared to several decades ago. One of things that immediately stood out was the statistics concerning screen time. So, I researched articles on amount of screen time used by our young people and any studies concerning the pros and cons of this increase in screen time usage.

I also did research on the history of outdoor “usage,” nature study and nature requirements for the various ranks and merit badges in the scouting program. I looked at how the “nature” requirements for the ranks and badges had changed over time.

I found many articles on the benefits of kids and adults spending time in the out-of-doors. I did a brief look at the spiritual development of children. I found that time in nature was a huge factor in this important aspect of child development. I was surprised to find the multitude of mental, physical and spiritual advantages offered by time spent with Mother Nature.

After my research was completed, I developed this document supporting the belief that young folks should spend less time in front of computer and television screens and more hours outdoors. “The Advantages of Access to Nature for Our Scouts” include much improved mental, physical and spiritual health, better family dynamics, an opportunity to “see” the creator, and happier more satisfied Scouts.



**CHAPTER IV**  
**FINDINGS AND DISCUSSION**

**Nature Is Good For Us**

This idea that nature is good for mankind is not a new concept. The 18th century philosopher Jean-Jacques Rousseau made the bold claim that modernity and civilization are not improvements; they've dragged us from a primitive state of innocence and happiness. The "state of nature" was moral and guided by spontaneous pity, empathy for others and their suffering. Two of his famous quotes are these: "Nature made me happy and good, and if I am otherwise, it is society's fault." and "I perceive God everywhere in His works. I sense Him in me; I see Him all around me" (YouTube).

The subject of nature deficit, while it has been around for quite some time, has now in the last decade begun again to get more press. The annual *Skin Cancer Foundation Journal* for 2022 had an article entitled "The Irresistible Calm of Nature". The subtitle states; "We all know that nature nurtures us. Scientific studies confirm there are benefits when you step onto a forest trail, hear a breeze rustle the leaves, touch the roughness of bark and smell the scent of pine needles and wild flowers. So, what's stopping you?" (*The Skin Cancer Foundation Journal*, 51-52).

Similarly, from *World* magazine, "But even in the grip of pain, death, and crushing loss, Grace beckons through sunlight and whispering leaves and flowing water" (Cheaney, 42). Our need and, in fact, our desire for contact with, and appreciation for, nature seems to be undeniable.

Diane Kashin, Ed. D, RECE addressed the issue of Nature being critical to youth development.

“When I taught introductory early childhood education courses, I presented developmental domains by raising my hand. One by one, I would count down the big five, cognitive, social, emotional, language and physical, which I would divide into gross and fine motor. Lately, I have been wondering about other domains that are also equally important. Now I wonder whether those new to the world of early learning should also be considering the aesthetic and spiritual domains of development?”

Aesthetics refers to the principles and philosophy concerned with nature and the appreciation of beauty. If we are thinking in terms of early learning, it refers to the ability to perceive through the senses, be sensitive to, and appreciate the beauty in art and nature. Rachel Carson speaks to this in her iconic book, *The Sense of Wonder* when she says: ‘Those who contemplate the beauty of the earth find reserves of strength that will endure as long as life lasts.’

Finding reserves of strength from the beauty of the earth aligns with spiritual development. Spirituality, like the aesthetic domain, is another important dimension of development. It often remains as a forgotten area of development in early childhood education. Perhaps the reason is that it is difficult to articulate the concept of spirituality, and many may confuse it with religion. However, the importance of the spiritual domain cannot be underestimated. Kelly Robbins suggests: ‘A deep sense of spirituality creates recognition, within individuals, of a sacred meaning to all of life. This understanding contributes to a feeling of significance of self as well as of others. This includes a healthy view of self, a thoughtfulness, compassion, and empathy for others, and a fundamental consideration for the well-being of family and community’” (Kashin).

### **Current Situation**

Why are teens said to be sadder, lonelier, and more depressed than ever before?

Is this just an illusion of our sensitive media, or is there really a mental health crisis in America?

The United States and Center for Disease Control and Prevention surveyed 8,000 teen students in America. According to this large study, “Persistent feelings of sadness or hopelessness” nearly doubled from 2009 to 2021 with an increase of 26 percent to 44

percent. This level of sadness in teenagers is undeniable, and it's the highest level ever recorded (Legg).

From the University of Texas Southwestern Medical Center in Dallas comes this information. "Across the U.S., stories of teen suicide are increasingly more common on news and social media channels. Nationally, rates of suicidal thoughts, suicide attempts, and self-harm have more than doubled, up from less than half a percent in 2008 to two percent in 2015.

Here in Dallas County, the numbers are alarming. The suicide rate for children 14 to 17 in Dallas County increased 79 percent from 2015 to 2016. Between 2008 and 2015, rates of children seen for suicidal ideation and behaviors in hospitals and emergency rooms almost doubled." (Kennard).

The article also mentions that the Centers for Disease Control and Prevention (CDC) reported that between 2007 and 2015, suicide deaths among young women ages 15 to 19 more than doubled from 2.4 to 5.1 per 100,000 people. And in 2016, suicide became the second leading cause of death in females between 10 and 24 years of age.

In December of 2022, the *Johnson City Press* began a five-part special report on with what mental health issues Johnson City students were struggling. The list included in part, tuition fees, midterms, relationships, grades, assignments, peer pressure, final exams, and the list continues (Stone, A1-A2).

Derek Thompson wrote in *The Atlantic* in April of 2022 "From 2009 to 2021, the share of American high-school students who say they feel "persistent feelings of sadness or hopelessness" rose from 26 percent to 44 percent, according to a new CDC study.

This is the highest level of teenage sadness ever recorded.” Thompson gives the four forces that he believed were propelling that increase. Those forces are as follows:

1. Social Media Usage - Why would social media affect the teenagers’ mental health in this way? One explanation is that teenagers (and teenage girls in particular) are very sensitive to the judgment of their friends, teachers, and the digital audience.
2. Sociality is down – it is proposed that the problem with social media is not social media itself, but the activities that it replaces. It causes loss of sleep, less participation in group sports, less going out with friends and less youth getting their driver’s license.
3. The world is stressful—and there is more news about the world’s stressors. In the last 15 or so years, teens are more concerned about the political environment, climate changes, and increase in crime and violence.
4. Modern parenting strategies – two main thoughts here. One, children are growing up much slower now. This causes a lack of tolerance to discomfort and a lack of personal competence. Secondly, there is a broad increase in an “accommodative” parenting style. Parents have neglected the part of growing up is learning how to release negative emotions in the face of inevitable stress. (Thompson).

The Pew Research Center recently reported that nearly half of U.S. teens now say they use the internet “almost constantly,” according to a survey conducted in April and May. The percentage has roughly doubled since 2014-15, when 24% said they were almost constantly online.

Since 2014-15, there has been a 22-point increase in the number of teens who report having access to a smartphone (from 73% then to 95% now). Although teens' access to smartphones has increased, their access to other digital technologies, such as desktop or laptop computers or gaming consoles, has remained statistically unchanged (Schaeffer).

In 2018 Rebecca Kennedy published an excellent paper entitled "Children Spend Half the Time Playing Outside in Comparison to Their Parents." She was discussing a United Kingdom (UK) study that was commissioned by the National Trust in which research revealed that children were spending approximately 4 hours weekly playing outside. Whereas their parents as children were spending an average 8.2 hours at play in the out-of-doors.

In addition, a study by the UK government found that 10% of respondents had never been in a natural environment (beach, park, or forest) for at least a year. It showed that overall engagement with outside rural spaces is low in this last decade and, as you might expect, highly dependent on both the parents' attitudes to outdoor activity and their socio-economic status.

Mrs. Kennedy also noted that this was not just a UK phenomenon. A recent study by the Seattle Children's Research Institute appearing in the *Archives of Pediatric & Adolescent Medicine* discovered that almost 50% of preschoolers lacked even one parent-supervised outdoor play session per day. On average, children aged 10 to 16 now spend only 12.6 minutes a day on vigorous activity in the out of doors compared with 10.4 waking hours being essentially motionless.

And there are other undesirable health consequences that we are just recently

beginning to recognize. For example, the ophthalmologists are reporting an alarming rise in the incidence of nearsightedness in our youth. It is estimated that currently about 40% of American kids ages 6 to 19 years are now nearsighted. The experts point to a combination of decreased time outdoors and increased screen time both as factors that put our children at higher risk of myopia (Medeiros).

It appears that we are currently raising a generation of very inactive kids who would prefer to sit on the couch and play video games than play outdoors armed with perhaps only a stick and their imagination (Kennedy). It would appear that the outdoor activities of decades ago – such as building a tree house, making a leaf fort, wading in streams, skipping rocks at the lake shore, catching salamanders and crawdads, and so forth, have gone by the wayside.

### **Outdoor Benefits**

We know that physical activity is necessary for good health. The CDC tells us that the health benefits of physical activity are numerous. They list the following:

1. Academic Performance
  - Improves attention and memory
2. Brain Health
  - Reduces risk of depression
3. Muscular Fitness
  - Builds strong muscles and endurance

4. Heart and Lung Health
  - Improves blood pressure and aerobic fitness
5. Cardiometabolic Health
  - Helps maintain normal blood sugar levels
6. Long-term Health
  - Reduces risk of several chronic diseases, including type 2 diabetes and obesity
7. Bone Strength
  - Strengthens bones
8. Healthy Weight
  - Helps regulate body weight and reduce body fat (Center for Disease Control)

There are multitudes of scientific studies that show the significant benefits to outdoor play on which this generation of children seem to be missing out and it's not just gorgeous scenery and fresh air. Here are a few of the benefits:

1. Better school performance. Time spent in nature and increased fitness improve cognitive function.
2. More creativity. Outdoor play uses and nurtures the imagination.
3. Much higher levels of fitness. Kids are more active when they are outdoors.
4. More friends. Children who organize their own games and participate in unstructured group activities are less solitary and learn to interact with their peers.

5. Less depression and hyperactivity. Time in nature is soothing, improves mood and reduces stress. It can also increase kids' attention span, because things move at a slower pace than they do on the screen.
6. Stronger bones. Exposure to natural light helps prevent vitamin D deficiency, making outdoorsy children less vulnerable to bone problems, cardiovascular disease, diabetes and other health issues.
7. Improved eyesight. Time spent outdoors can help combat increasing diagnoses of nearsightedness.
8. Better sleep. Exposure to natural light, and lots of physical activity, help reset a child's natural sleep rhythms.
9. A longer life span and healthier adult life. Active kids are more likely to grow into active adults.
10. And the best part, all these benefits — especially those related to health and well-being — also apply to the adults spending more time with their children outdoors (O'Mara).

### **Mitigating Activities**

So, how do we get our youth excited about spending more time with Mother Nature and make it fun to boot. Lauren Knight, in an article on parenting in *The Washington Post* in 2016 wrote, "10 ways to help kids fall in love with being outside:"

How do we get everybody excited about being outside in Nature and make it fun at the same time? According to Laura Knight she suggests 10 ways.



### **Simply be in nature**

We need to significantly increase the amount of time our kids spend playing outdoors and with objects found in nature. It is even suggested that we leave them alone while they do it. Try to give kids the time and space to explore nature and create their own adventures.

### **Sleep outside**

When the conditions are right, try sleeping in the open night air. Maybe take a tent out into the back yard and bring only a flashlight and sleeping bag. Use the time to listen to the world around you and enjoy the fresh air.

### **Inspire by being inspired**

If you choose to make the natural world a priority by showing great awe and enthusiasm for it, scouts will see your enthusiasm and be infected by the same. I've heard it said, "The most effective way to connect our children to nature is to connect ourselves to nature." Children take cues from adults, so when they see an adult stop, bend down and observe a small caterpillar with interest or stare up at the trees or sky, these things suddenly become more interesting to them. Embrace being a curious human and be open to learning new things. Encourage your child to ask questions about nature, even if you don't know the answers. Working together with a child to find the answers provides quality time together.

### **Look to the skies**

Check out *The Cloudspotter's Guide* and *Sky Gazing: A Guide to the Moon, Sun, Planets, Stars, Eclipses, and Constellations* from your local library. At night, find a comfortable place to sit or lie down and be amazed at the vast evening skies. The planets, stars, constellations and the Milky Way should be rather easy to locate with the help of the above mentioned "Star Gazing" guide. A brief study of the phases of the moon should also be of interest to your child. During daylight, pack up a comfortable blanket to spread in a field and spend the afternoon identifying cirrostratus and cumulonimbus clouds. Discuss weather events and the clouds that precede them. You can also encourage children to use their imaginations to tell you what animals and things they see in the clouds.

### **Plant something**

Planting a garden of some sort is a great way to connect your scouts with nature. There are opportunities to grow something almost anywhere. Whether you plant various sources of food for the birds, plant a flower bed with flowers and plants which attract butterflies, or grow berries, fruits or vegetables to eat, the opportunities are unlimited. Your kids can use your back yard, a relative's yard or a shared community space. Allow them to help prepare the soil, plant the seeds or plants, water and remove weeds. This is a great project to spend time in the out-of-doors and educate youth about where food comes from, the close relationship between plants and animals, the harmony of nature, and that a little hard work produces a bounty well worth the effort. A garden or planting takes plenty of work, so there will be many opportunities to be outside to enjoy Mother Nature.

### **Make a fairy house**

Add a little magic and mystery to help our kids become more engaged with their natural surroundings. Encourage imaginative play by encouraging them to build tiny outdoor houses for “fairies” from various natural materials such as bark, sticks, stones, flowers, grasses, acorns, and pinecones. Play with your child and think of all the endless possibilities: a tiny stone path, a picket fence made of tiny sticks, a dug-out swimming pool or bathtub, even a little leaf hammock.

### **Explore a pond or stream**

Our children are naturally drawn to water and can spend hours around it. Help them explore a lake, creek, ocean shore, or marshy area nearby. Have them bring a net, a jar, a hand trowel to dig for creatures in the mud, and one or more field guides. You should encourage your child to catch small creatures to observe. A child should find great joy discovering the minnows, salamanders, crayfish, snails and insects that are abundant in these habitats.

### **Start a collection and keep records**

Today, with digital cameras, it is easy to collect pictures of plants, animals, rocks, or clouds, although collecting actual specimens may add some excitement “to the chase.” It is also a good idea to start your child keeping a written record of what, where, when and under what conditions items were collected, seen or photographed. Just be sure to check the rules and regulations of the area you are exploring to make sure it is okay to collect something. Be sure to have a conversation with your child about the concept of

“Leave No Trace” and the difference between picking up a dead branch from the ground, for example, and breaking one off a tree.

### **Take a hike**

We can go for a walk in the woods with our children. Take along binoculars, a magnifying glass, nature field guides, and collection jars or Ziplock bags. Stop at a creek. Take your time. Try to spot 10 different insects, mammals, animal tracks or signs of animals hidden away.

### **Go barefoot**

Walking barefoot can help scouts develop a natural, healthy gait and optimize brain development. Letting kids walk around without shoes to help them develop good balance and an awareness of where their body is in space. It is also a joy for the senses, whether on cool grass, warm sand, or squishy mud (Knight).

## **Scouting and Nature**

In the scout handbook over the years, one can observe the numbers of pages attributed to the study of nature. In the *Handbook for Boys*, later called *The Official Boy Scout Handbook* and now *Handbook for Boys* and *Handbook for Girls*, one can observe in the various copyrighted editions the following: the 1911 edition gave approximately 80 pages to the study of nature, the 1948 edition had approximately 66 pages devoted to nature study, both the 1979 and the 1988 editions of the Scout Handbook had approximately 100 pages of nature study and the 2019 edition has a mere 34 pages. It is

obvious to me that the volume of information on nature study in the Scout Handbooks has significantly decreased in the last decades (Boy Scouts of America).

Also, if we look at merit badges, we see the following. In 1915 Bird Study merit badge was the only nature related merit badge to be required for the Eagle Scout rank. In 1952 the Nature merit badge became a requirement for the Eagle Scout rank, replacing the Bird Study merit badge. In addition to Nature, one badge from either of the following nature related groups was required - Animal Husbandry or Plant Cultivation. In 1972 the Nature merit badge was totally dropped as a requirement for the Eagle Rank; and it has not been reinstated as of the writing of this paper (US Scouting).

The Nature merit badge currently requires knowledge of the critical relationships between plants and animals. Also, requirements in five of the following eight fields of nature study are required: birds, mammals, reptiles and amphibians, insects and spiders, fish, mollusks and crustaceans, plants and soil and rocks.

If we look at the current nature requirements for tenderfoot, second-, and first-class ranks, they are minimal - being identify ten wild animals and identify ten native plants (2019 Boy Scouts of America, 442-452). The 1911 edition of the *Handbook for Boys* lists First Class Scout requirement number ten as “Describe fully from observation ten species of trees or plants, including poison ivy, both (tree) bark, leaves, flowers, fruit, or scent (Appendix C), or six species of wild birds by their plumage, notes, tracks, or habits (Appendix B), or six species of native wild animals by their form, color, call, tracks, or habits (Appendix D), find the north star, and name and describe at least three constellations of stars” (1911 Handbook, 18). From the latter, I infer a much more commanding use of Mother Nature in the earlier decades of Scouting.

In the last few years, the nature merit badge has been ranked in the thirties in the list of all merit badge rankings; except for 2020, the year of COVID, when it dropped into the fifties (Wendell). One would hope that we might see a significant improvement in this positioning if the Nature merit badge was added back as a requirement for the Eagle Rank.

The Sustainability Merit Badge or the Environmental Science Merit Badge is required for the Eagle Scout rank. There are no other nature related badges required for that rank. While these badges educate our youth on some very important matters, they don't expose the scout to the wonders, excitement and thrills of being in the out-of-doors.

## CHAPTER V

### RESULTS AND DISCUSSION

The potential advantages for our scouts from accessing nature are evident from the literature, but the trend from the scout handbooks is deemphasis. If Scouting is going to help our youth with decreasing screen time and getting outside to enjoy and thrive in Mother Nature, we are going to have to revert to some of the “old ways.” We need to return to plant and animal identification, tracking, observing the land and the skies – in rank and merit badge requirements we need to inspire by being inspired regularly. Also, perhaps making the hiking merit badge a requirement for Eagle – not one of three options (swimming and cycling are other options offered) would be advantageous.

1. Use Ranger Rick from The National Wildlife Federation - [rangerrick.com](http://rangerrick.com). Wildlife actually holds a huge and special fascination for youth of all ages. If we take the time to explore wildlife with the children in our sphere of influence, the kids will automatically become more engaged with our natural world and spend more time outside.
2. “Go Out and Play” Kit from the CDC  
[https://www.cdc.gov/ncbddd/actearly/pdf/ccp\\_pdfs/gop\\_kit.pdf](https://www.cdc.gov/ncbddd/actearly/pdf/ccp_pdfs/gop_kit.pdf)
3. “Garden for Wildlife” from The National Wildlife Federation [nwf.org/Garden-for-Wildlife](http://nwf.org/Garden-for-Wildlife). Little things can make a huge impact as we raise our youth. We can help cultivate a love of nature for kids by planting a small window box or garden at home or making an effort to provide our native wildlife with water, food and shelter.

4. Set aside an hour of playtime outside in “nature.” The National Wildlife Federation calls this a “Green Hour.” This can be an impromptu stop at a local park, a last minute picnic, or even a stop at a stream or “lookout view” along your route.

[nwf.org/greenhour](http://nwf.org/greenhour)

### **Books and Papers**

1. *I Love Dirt!*, by Jennifer Ward, Shambhala Publications, May 13, 2008, (Appendix A) presents 52 open-ended activities to help you engage your child in the outdoors. No matter what your location—from a small patch of green in the city to the wide-open meadows of the country—each activity is meant to promote exploration, stimulate imagination, and heighten a child's sense of wonder.
2. *Last Child in the Woods: Saving Our Children from Nature-deficit Disorder*, by Richard Louv, Algonquin Books of Chapel Hill, 2008, Louv talks with parents, children, teachers, scientists, religious leaders, child-development researchers, and environmentalists who recognize the threat and offer solutions. Louv shows us an alternative future, one in which parents help their kids experience the natural world more deeply—and find the joy of family connectedness in the process.
3. *Sharing Nature with Children*, by Joseph Cornell, Dawn Publications, 1998, is a classic that is a powerful approach to nature education for our youth that sparked a worldwide revolution upon publication of the first edition.
4. *A Naturalist's Teaching Guide*, by Jennifer Bauer Wilson, Prentice Hall Press, 1986, is a great catalog of nature activities and study to teach oneself and others to become much more sensitive and aware of the wonderful aspects of nature around us.



5. Any of the *Peterson Field Guides*, available on most every type of plant, animal, and the sky.

### **Sequoyah Council Area Parks and Recreation Areas**

1. The Tweetsie Trail – Johnson City, TN  
[https://www.johnsoncitytn.org/residents/parks\\_and\\_facilities/tweetsie\\_trail/index.php](https://www.johnsoncitytn.org/residents/parks_and_facilities/tweetsie_trail/index.php)
2. Buffalo Mountain Park – Johnson City, TN  
[https://www.johnsoncitytn.org/residents/parks\\_and\\_facilities/tweetsie\\_trail/index.php](https://www.johnsoncitytn.org/residents/parks_and_facilities/tweetsie_trail/index.php)
3. Jacob’s Nature Park - Johnson City, TN  
[https://www.johnsoncitytn.org/residents/parks\\_and\\_facilities/jacobs\\_nature\\_park.php](https://www.johnsoncitytn.org/residents/parks_and_facilities/jacobs_nature_park.php)
4. Willow Springs Park - Johnson City, TN  
[https://www.johnsoncitytn.org/residents/parks\\_and\\_facilities/willow\\_springs\\_park.php](https://www.johnsoncitytn.org/residents/parks_and_facilities/willow_springs_park.php)
5. Winged Deer Park - Johnson City, TN  
[https://www.johnsoncitytn.org/residents/parks\\_and\\_facilities/residents/winged\\_deer\\_park.php](https://www.johnsoncitytn.org/residents/parks_and_facilities/residents/winged_deer_park.php)
6. Bays Mountain Nature Preserve and Planetarium – Kingsport, TN  
<https://www.baysmountain.com>

7. Feagins Gap – Kingsport, TN  
[https://www.waymarking.com/waymarks/wm62RM\\_Feagins\\_Gap\\_Bays\\_Mountain\\_Park\\_Kingsport\\_TN](https://www.waymarking.com/waymarks/wm62RM_Feagins_Gap_Bays_Mountain_Park_Kingsport_TN)
8. Warriors' Path State Park - Sullivan County, TN  
<https://tnstateparks.com/parks/warriors-path>
9. Hungry Mother State Park – Marion, VA  
<https://www.dcr.virginia.gov/state-parks/hungry-mother>
10. Laurel Run Park – Church Hill, TN  
<https://www.hawkinscountytn.gov/parks.html>
11. Whitetop Creek Park – Bristol, TN  
<https://www.bristoltn.org/191/Whitetop-Creek-Park>
12. Steele Creek Nature Center– Bristol, TN  
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13. Bristol Caverns – Bristol, TN  
<https://bristolcaverns.com>
14. Appalachian Caverns – Blountville, TN  
<https://www.appalachiancavernstn.com>
15. Lamar Alexander Rocky Fork State Park – Unicoi Co., TN  
<https://tnstateparks.com/parks/rocky-fork>
16. Laurel Fork Falls – Hampton, TN  
<https://www.fs.usda.gov/recarea/cherokee/recreation/recarea/?recid=35016&actid=50>
17. Roan Mountain State Park – Roan Mountain, TN  
<https://tnstateparks.com/parks/roan-mountain>

18. Sycamore Shoals State Park – Elizabethton, TN  
<https://www.tnstateparks.com/parks/sycamore-shoals>
19. David Crockett Birthplace State Park – Limestone, TN  
<https://www.tnstateparks.com/parks/david-crockett-birthplace>
20. Pinnacle Mountain Fire Tower Trail – Unicoi, TN  
<https://www.alltrails.com/trail/us/tennessee/pinnacle-mountain-fire-tower-trail>
21. Chestoa Recreation Area – Erwin, TN  
<https://www.fs.usda.gov/recarea/cherokee/recarea/?recid=34968>
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<https://www.nolilearn.org/>
25. The Creeper Trail – Abingdon, VA  
<http://www.vacrepertrail.us>
26. Sugar Hollow Park – Bristol, VA  
<https://www.yelp.com/biz/sugar-hollow-park-bristol>
27. White Blaze Outdoors – Abingdon, VA  
<https://whiteblazeoutdoors.com>
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<https://www.nps.gov/appa/index.htm>
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<https://www.nps.gov/ovvi/index.htm>
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34. Breaks Interstate Park – Breaks, VA  
<https://www.breakspark.com>
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## **CHAPTER VI**

### **SUMMARY**

Our youth, children, and scouts are under attack from multiple sources. The internet, social media, movies, and TV all fight for their time. This generates desocialization - loneliness, depression, anxiety, and inability to interact with other humans.

The benefits of getting our kids outside have been shown repeatedly. These include, but are not restricted to, better fitness, better school performance, better socialization, less depression and hyperactivity, better sleep, and stronger bones.

Scouting has, in the past, used requirements to get our children outside to commune with Nature. However, this trend seems to have been reversed. For the well-being and improved mental and physical health of our scouts, we need to encourage our children to return to Mother Nature by changing regular activities. We are inspiring to inspire.

The outdoor experiences, government designated parks, nature programs, and organizations are already in place to help us with this task. We just need to recognize the need and act.

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## APPENDIX A

Good Books for Kids and Families from *Last Child in the Woods*, Richard Louv.

### GOOD BOOKS FOR KIDS AND FAMILIES

*Attracting Birds, Butterflies and Other Backyard Wildlife*,

David Mizejewski (Creative Homeowner, 2004)

*Backyard Bird Watching for Kids: How to Attract, Feed, and Provide Homes for Birds*, George H. Harrison (Willow Creek Press, 1997)

*Best Hikes with Children* series, guides by geographic region (The Mountaineers)

*Camp Out!: The Ultimate Kids' Guide*, Lynn Brunelle (Workman, 2007)

*Children's Special Places*, David Sobel (Wayne State University Press, 2001)

- A Child's Introduction to the Night Sky: The Story of the Stars, Planets, and Constellations—and How You Can Find Them in the Sky*, Michael Driscoll (Black Dog & Leventhal, 2004)
- The Cloudspotter's Guide: The Science, History, and Culture of Clouds*, Gavin Pretor-Pinney (Perigee, 2007)
- Coyote's Guide to Connecting Kids with Nature*, Jon Young, Ellen Haas, Evan McGown (Wilderness Awareness School, 2008)
- Creating a Family Garden: Magical Outdoor Spaces for All Ages*, Bunny Guinness (Abbeville Press, 1996)
- Fandex Family Field Guides* series (Workman, 1999)
- Father Nature: Fathers as Guides to the Natural World*, ed. Paul S. Piper and Stan Tag (University of Iowa Press, 2003)
- Go Outside: Over 130 Activities for Outdoor Adventures*, Nancy Blakey (Tricycle Press, 2002)
- Golden Field Guides* series (St. Martins)
- How to Build an Igloo: And Other Snow Shelters*, Norbert E. Yankielun (Norton, 2007)
- I Love Dirt!*, Jennifer Ward (Trumpeter, 2008)
- The Joy of Hiking: Hiking the Trailmaster Way*, John McKinney (Wilderness Press, 2005)
- Keeping a Nature Journal: Discover a Whole New Way of Seeing the World Around You*, Clare Walker Leslie and Charles E. Roth (Storey, 2003)
- The Kid's Book of Weather Forecasting: Build a Weather Station, 'Read the Sky' and Make Predictions!*, Mark Breen and Kathleen Friestad (Williamson, 2000).
- My Nature Journal*, Adrienne Olmstead (Pajaro, 1999)

*National Audubon Society Field Guides* series (Knopf)

*Peterson Field Guides* and *Peterson First Guides* series  
(Houghton Mifflin)

*Rock and Fossil Hunter*, Ben Morgan (DK Publishing, 2005)

*Roots, Shoots, Buckets and Boots: Gardening Together  
with Children*, Sharon Lovejoy (Workman, 1999)

*The Sense of Wonder*, Rachel Carson (HarperCollins, 1998)

*Sharing Nature with Children*, Joseph Cornell  
(Dawn Publications, 1998).

*Shelters, Shacks & Shanties: The Classic Guide to Building  
Wilderness Shelters*, (Dover, 2004)

*Sibley Field Guides* series (Knopf)

*Summer: A User's Guide*, Suzanne Brown (Artisan, 2007)

*Sunflower Houses: Inspiration from the Garden*, Sharon Lovejoy  
(Workman, 2001)

*Take a Backyard Bird Walk*, Jane Kirkland (Stillwater, 2001)

*Track Pack: Animal Tracks in Full Life Size*, Ed Gray and  
DeCourcy L. Taylor, Jr. (Stackpole, 2003)

*Tracking and the Art of Seeing: How to Read Animal Tracks  
and Sign*, Paul Rezendes (Collins, 1999)

*Treehouses and Playhouses You Can Build*, David and Jeanie Stiles  
(Gibbs Smith, 2006)

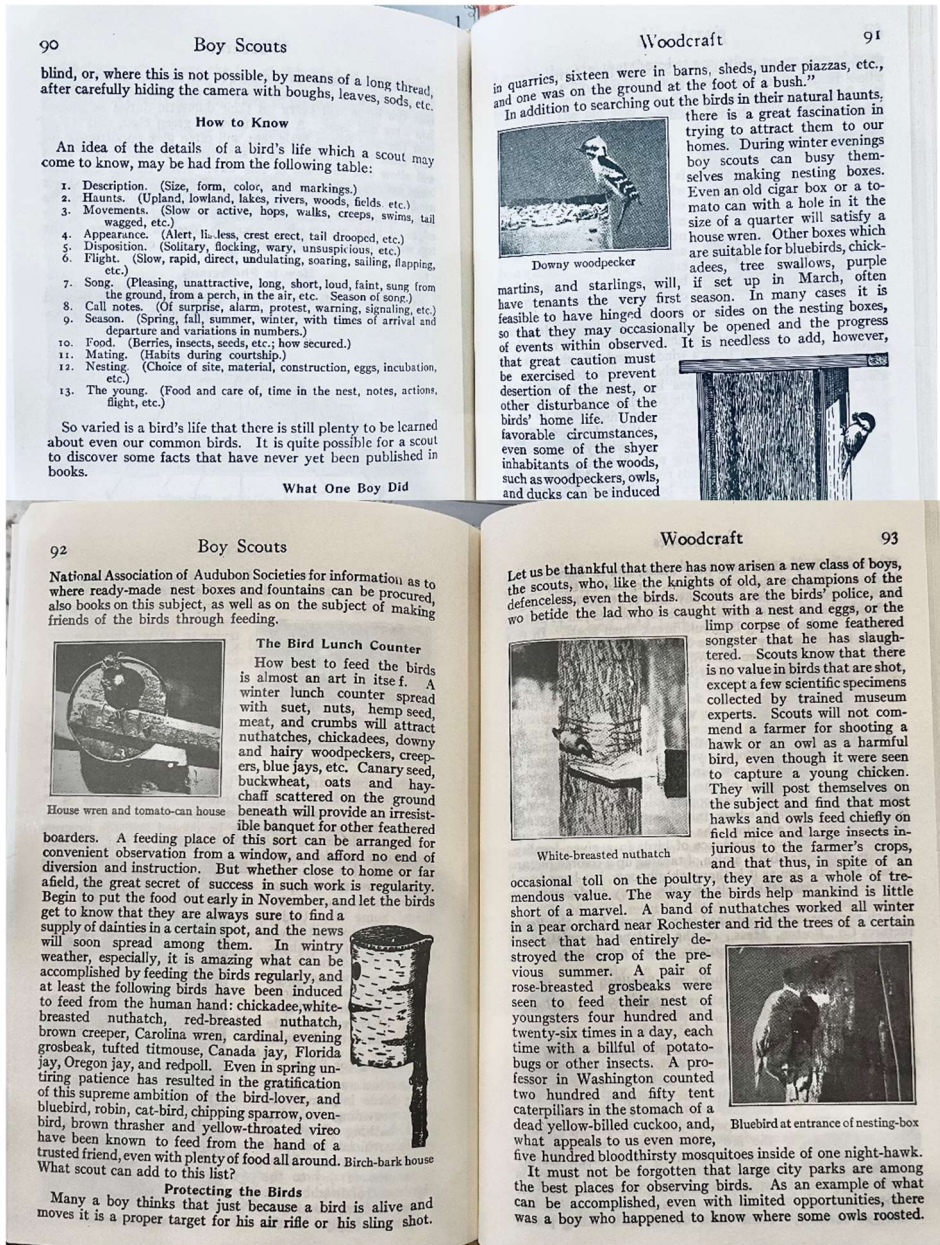
*Unplugged Play*, Bobbi Conner (Workman, 2007)

*Young Birders' Guide to Birds of Eastern North America*,  
Bill Thompson III (Houghton Mifflin, 2008)

For additional books, see *Suggested Reading*

## Appendix B

The 1911 edition of the *Handbook for Boys* lists First Class Scout requirement



90 Boy Scouts  
blind, or, where this is not possible, by means of a long thread, after carefully hiding the camera with boughs, leaves, sods, etc.

### How to Know

An idea of the details of a bird's life which a scout may come to know, may be had from the following table:

1. Description. (Size, form, color, and markings.)
2. Haunts. (Upland, lowland, lakes, rivers, woods, fields etc.)
3. Movements. (Slow or active, hops, walks, creeps, swims, tail wagged, etc.)
4. Appearance. (Alert, li. less, crest erect, tail drooped, etc.)
5. Disposition. (Solitary, flocking, wary, unsuspicious, etc.)
6. Flight. (Slow, rapid, direct, undulating, soaring, sailing, flapping, etc.)
7. Song. (Pleasing, unattractive, long, short, loud, faint, sung from the ground, from a perch, in the air, etc. Season of song.)
8. Call notes. (Of surprise, alarm, protest, warning, signaling, etc.)
9. Season. (Spring, fall, summer, winter, with times of arrival and departure and variations in numbers.)
10. Food. (Berries, insects, seeds, etc.; how secured.)
11. Mating. (Habits during courtship.)
12. Nesting. (Choice of site, material, construction, eggs, incubation, etc.)
13. The young. (Food and care of, time in the nest, notes, actions, flight, etc.)

So varied is a bird's life that there is still plenty to be learned about even our common birds. It is quite possible for a scout to discover some facts that have never yet been published in books.

### What One Boy Did

## Woodcraft

in quarries, sixteen were in barns, sheds, under piazzas, etc., and one was on the ground at the foot of a bush."

In addition to searching out the birds in their natural haunts, there is a great fascination in trying to attract them to our homes. During winter evenings boy scouts can busy themselves making nesting boxes. Even an old cigar box or a tomato can with a hole in it the size of a quarter will satisfy a house wren. Other boxes which are suitable for bluebirds, chickadees, tree swallows, purple martins, and starlings, will, if set up in March, often have tenants the very first season. In many cases it is feasible to have hinged doors or sides on the nesting boxes, so that they may occasionally be opened and the progress of events within observed. It is needless to add, however, that great caution must be exercised to prevent desertion of the nest, or other disturbance of the birds' home life. Under favorable circumstances, even some of the shyer inhabitants of the woods, such as woodpeckers, owls, and ducks can be induced



Downy woodpecker



## Boy Scouts

National Association of Audubon Societies for information as to where ready-made nest boxes and fountains can be procured, also books on this subject, as well as on the subject of making friends of the birds through feeding.

### The Bird Lunch Counter

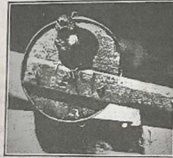
How best to feed the birds is almost an art in itself. A winter lunch counter spread with suet, nuts, hemp seed, meat, and crumbs will attract nuthatches, chickadees, downy and hairy woodpeckers, creepers, blue jays, etc. Canary seed, buckwheat, oats and hay-chaff scattered on the ground beneath will provide an irresistible banquet for other feathered

boarders. A feeding place of this sort can be arranged for convenient observation from a window, and afford no end of diversion and instruction. But whether close to home or far afield, the great secret of success in such work is regularity. Begin to put the food out early in November, and let the birds get to know that they are always sure to find a supply of dainties in a certain spot, and the news will soon spread among them. In wintry weather, especially, it is amazing what can be accomplished by feeding the birds regularly, and at least the following birds have been induced to feed from the human hand: chickadee, white-breasted nuthatch, red-breasted nuthatch, brown creeper, Carolina wren, cardinal, evening grosbeak, tufted titmouse, Canada jay, Florida jay, Oregon jay, and redpoll. Even in spring untiring patience has resulted in the gratification of this supreme ambition of the bird-lover, and bluebird, robin, cat-bird, chipping sparrow, oven-bird, brown thrasher and yellow-throated vireo have been known to feed from the hand of a trusted friend, even with plenty of food all around. Birch-bark house

What scout can add to this list?

### Protecting the Birds

Many a boy thinks that just because a bird is alive and moves it is a proper target for his air rifle or his sling shot.



House wren and tomato-can house



## Woodcraft

Let us be thankful that there has now arisen a new class of boys, the scouts, who, like the knights of old, are champions of the defenceless, even the birds. Scouts are the birds' police, and wo betide the lad who is caught with a nest and eggs, or the limp corpse of some feathered songster that he has slaughtered. Scouts know that there is no value in birds that are shot, except a few scientific specimens collected by trained museum experts. Scouts will not commend a farmer for shooting a hawk or an owl as a harmful bird, even though it were seen to capture a young chicken. They will post themselves on the subject and find that most hawks and owls feed chiefly on field mice and large insects injurious to the farmer's crops, and that thus, in spite of an



White-breasted nuthatch

occasional toll on the poultry, they are as a whole of tremendous value. The way the birds help mankind is little short of a marvel. A band of nuthatches worked all winter in a pear orchard near Rochester and rid the trees of a certain insect that had entirely destroyed the crop of the previous summer. A pair of rose-breasted grosbeaks were seen to feed their nest of youngsters four hundred and twenty-six times in a day, each time with a billful of potato-bugs or other insects. A professor in Washington counted two hundred and fifty tent caterpillars in the stomach of a dead yellow-billed cuckoo, and, what appeals to us even more, five hundred bloodthirsty mosquitoes inside of one night-hawk.

It must not be forgotten that large city parks are among the best places for observing birds. As an example of what can be accomplished, even with limited opportunities, there was a boy who happened to know where some owls roosted.



Bluebird at entrance of nesting-box

## Appendix C

The 1911 edition of the *Handbook for Boys* lists First Class Scout requirement

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roots, and their solid white interior are easily remembered. Peel, slice, and fry.

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"One Thousand American Fungi." By McIlvaine and Macadam. Published by the Bobbs-Merrill Company of Indianapolis, 1902. \$3.00. Add 40 cents express.

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**COMMON NORTH AMERICAN TREES**

**White Pine**  
(*Pinus strobus*)

A noble evergreen tree, up to 175 feet high. This is the famous pine of New England, the lumberman's prize. Its leaves are in bunches of five, and are 3 to 5 inches long;

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in West; even 150 feet high. Leaves 3 to 6 inches long. Found from Quebec to Florida and west to the mountains.

**Shagbark or White Hickory**  
(*Hicoria ovata*)

A tall forest tree up to 120 feet high. Known at once by the great angular slabs of bark hanging partly detached from its main trunk, forced off by the growth of wood, but too tough to fall. Its leaves are 8 to 14 inches long, with 5 to 7 broad leaflets.

**Black Walnut**  
(*Juglans nigra*)

A magnificent forest tree up to 150 feet high. Wood, a dark purplish-brown or gray; hard, close-grained, strong, very durable in weather or ground work, and heavy; fruit round, 1½ inches through. Leaflets 13 to 23, and 3 to 5 inches long. Found from Canada to the Gulf.

**White Walnut or Butternut**  
(*Juglans cinerea*)

A much smaller tree than the last, rarely 100 feet high, with much smoother bark, leaves similar but larger and coarser, compound of fewer leaflets, but the leaflet stalks and the new twigs are covered with sticky down. Leaves 15 to 30 inches long, leaflets 11 to 19 in number and 3 to 5 inches long; fruit oblong, 2 to 3 inches long. New Brunswick and Dakota and south to Mississippi.

**Common Birch or Aspen-leaved Birch**  
(*Betula populifolia*)

A small tree on dry and poor soil, rarely 50 feet high. Wood soft, close-grained, not strong, splits in drying, useless for weather or ground work. A cubic foot weighs 36 pounds. Leaves 2 to 3 inches long. It has a black triangular scar at each armpit. The canoe birch is without these black marks. New Brunswick to Ontario to Pennsylvania and Delaware.

**Black Birch, Sweet Birch, or Mahogany Birch**  
(*Betula lenta*)

The largest of the birches; a great tree, in Northern forests up to 80 feet high. The bark is scarcely birchy, rather like that of

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There are many different kinds of pines. They are best distinguished by their cones.

**Hemlock**  
(*Tsuga Canadensis*)

Evergreen. Sixty to seventy feet high. Wood pale, soft, coarse, splintery, not durable. Bark full of tannin. Leaves ½ to ¾ inches long; cones about the same. Its knots are so hard that they quickly turn the edge of an axe or gap it as a stone might; these are probably the hardest vegetable growth in our woods. Its topmost twig usually points easterly. Nova Scotia to Minnesota, south to Delaware and Michigan.

**Red Cedar**  
(*Juniperus Virginiana*)

Evergreen. Any height up to 100 feet. Wood, heart a beautiful bright red; sap wood nearly white; soft, weak, but extremely durable as posts, etc. Makes a good bow. The

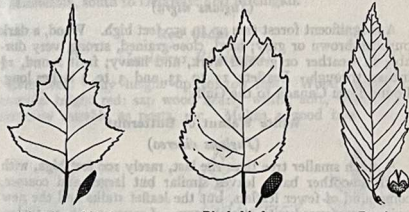


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cherry, very dark, and aromatic. Leaves 2½ to 6 inches long. Newfoundland to Western Ontario and south to Tennessee.

**Beech**  
(*Fagus Americana*)

In all North America there is but one species of beech. It is a noble forest tree, 70 to 80 and occasionally 120 feet high, readily distinguished by its smooth, ash-gray bark. Leaves



Ashen-leaved birch      Black birch      Beech

3 to 4 inches long. It shares with hickory and sugar maple the honor of being a perfect firewood. Nova Scotia to Wisconsin, south to Florida and Texas.

**Chestnut**  
(*Castanea dentata*)

A noble tree, 60 to 80 or even 100 feet high. The most delicious of nuts. Leaves 6 to 8 inches long. Maine to Michigan and south to Tennessee.

**Red Oak**  
(*Quercus rubra*)

A fine forest tree, 70 to 80 or even 140 feet high. Hard, strong, coarse-grained, heavy. It checks, warps, and does not stand for weather or ground work. The acorn takes two

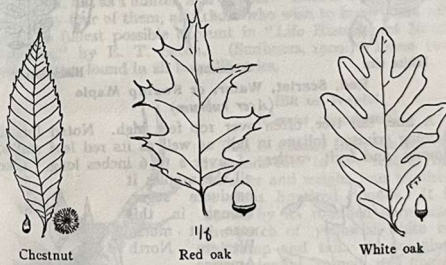
seasons to ripen. Leaves 4 to 8 inches long. Nova Scotia to Minnesota, south to Texas and Florida.

**White Oak**  
(*Quercus alba*)

A grand forest tree, over 100 up to 150 feet high. Wood pale, strong, tough, fine-grained, durable and heavy, valuable timber. Called white from pale color of bark and wood. Leaves 5 to 9 inches long. Acorns ripen in one season. Maine to Minnesota, Florida and Texas.

**White Elm or Swamp Elm**  
(*Ulmus Americana*)

A tall, splendid forest tree, commonly 100, occasionally 120 feet high. Wood reddish-brown, hard, strong, tough,



very hard to split, coarse, heavy. Soon rots near the ground. Leaves 2 to 5 inches long. Flowers in early spring before leafing. Abundant, Newfoundland and Manitoba to Texas.

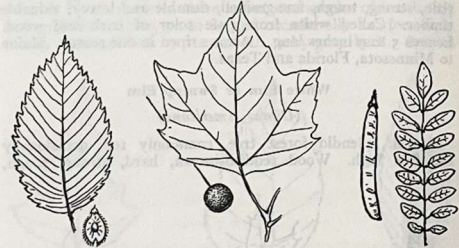
**Sycamore, Plane Tree, Buttonball or Buttonwood**  
(*Platanus occidentalis*)

One of the largest of our trees; up to 140 feet high; commonly hollow. Little use for weather work. Famous for shedding

its bark as well as its leaves; leaves 4 to 9 inches long. Canada to Gulf.

**Black or Yellow Locust, Silver Chain**  
(*Robinia pseudacacia*)

A tall forest tree up to 80 feet high; leaves 8 to 14 inches long; leaflets 9 to 19, 1 to 2 inches long, pods 2 to 4 inches long, 4 to 7 seeded. This is the common locust so often seen about old lawns.



White elm                      Sycamore                      Black locust

**Red, Scarlet, Water, or Swamp Maple**  
(*Acer rubrum*)

A fine, tall tree, often over 100 feet high. Noted for its flaming crimson foliage in fall, as well as its red leaf stalks, flowers, and fruit, earlier. Leaves 2 to 6 inches long. Like all the maples it produces sugar, though in this case not much. Western North America.



Red maple

The sugar maple is a larger, finer tree.

**White Ash**  
(*Fraxinus Americana*)



White ash

A fine tree on moist soil. Seventy to 80 or even 130 feet high. Yellow in autumn; noted for being last to leaf and first

Appendix D  
The 1911 edition of the *Handbook for Boys* lists First Class Scout requirement

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to shed in the forest. Called white for the silvery under sides of the leaves; these are 8 to 12 inches long, each leaflet 3 to 6 inches long. Nova Scotia to Texas.

For a full unbotanical account of one hundred and twenty of our finest trees with their uses as wood, their properties, and the curious and interesting things about them see:

"The Forester's Manual: or Forest Trees That Every Scout Should Know." By Ernest Thompson Seton.

NATIVE WILD ANIMALS

Every scout ought to know the principal wild animals that are found in North America. He need not know them as a naturalist, but as a hunter, as a camper. Here is a brief account of twenty-four of them, and those who wish to know more will find the fullest possible account in "Life Histories of North America," by E. T. Seton. (Scribners, 1909.) These two volumes are found in all large libraries.

Elk or Wapiti  
(*Cervus canadensis*)

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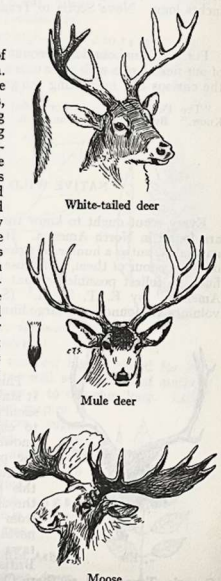
The elk of Washington is very dark in color; that of the Southwest is very pale and small.

White-tailed Deer  
(*Odocoileus virginianus*)

This is the best known of the common deer of America. It is distinguished by the forward bend of the horns, with the snags pointing backward, and by its long tail which is brown or blackish above and pure white below. Its face is gray, its throat white. A fair sized buck weighs two hundred pounds, live weight. A few have been taken of over three hundred and fifty pounds weight. In the Southern states they run much smaller. Several varieties have been described. It was found formerly in all of the timber states east of the Rockies; also in Ontario south of Lake Nipissing, in south Quebec and south New Brunswick. At present it is exterminated in the highly cultivated states of the Middle West, but has spread into northern Ontario, New Brunswick, and Manitoba.

Mule Deer  
(*Odocoileus hemionus*)

This is the commonest deer of the hill country in the centre of the continent. It is found in the mountains from Mexico to British Columbia and northeasterly to the Saskatchewan and the Lake of the Woods. It is known by its



Woodcraft 135

double-forked horns, its large ears, the dark patch on the forehead, the rest of the face being whitish. Also by its tail which is white with a black bunch on the end. This is a larger deer than the White-tail. There are several varieties of it in the South and West.

Moose  
(*Alces americanus*)

This is the largest of the deer tribe. It stands five and a half to six and a half feet at the withers and weighs eight hundred to one thousand pounds. It is readily distinguished by its flat horns and pendulous, hairy muzzle. It is found in all the heavily timbered regions of Canada and Alaska and enters the United States in Maine, Adirondacks, Minnesota, Montana, Idaho, and northwestern Wyoming. Those from Alaska are of gigantic stature.

In all our deer the antlers are grown and shed each year, reaching perfection in autumn for the mating season. They are found in the males only, except in the caribou, in which species the females also have small horns.


Antelope  
(*Antilocapra americana*)

The antelope is famous as the swiftest quadruped native in America. It is a small creature, less than a common deer; a fair-sized buck weighs about one hundred pounds. It is known by its rich buff color with pure white patches, by having only two hoofs on each foot, and by the horns which are of true horn, like those of a goat, but have a snag or branch and are shed each year. In the female the horns are little points about an inch long.

Formerly the antelope abounded on all the high plains from Manitoba to Mexico and west to Oregon and California. It is now reduced to a few straggling bands in the central and wildest parts of the region.

Mountain Goat  
(*Oreamnos montanus*)

The mountain goat is known at once by its pure white coat of wool and hair, its black horns, and peculiar shape. It is



above the size of a common deer; that is, a full grown male weighs two hundred and fifty to three hundred pounds; the female a third less.

It is famous for its wonderful power as a rock climber and mountaineer. It is found in the higher Rockies, chiefly above timber lines, from central Idaho to Alaska.

**Woodchuck**  
(*Marmota monax*)

The common woodchuck is a grizzly brown on the back, chestnut on the breast, blackish on the crown and paws, and whitish on the cheeks. Its short ears and bushy tail are important characteristics. It measures about twenty-four inches of which the tail is five and a half inches and weighs five to ten pounds.



Goat

tiger. It is known by its unspotted brown coat, its long, heavy tail, and its size. A male cougar weighs one hundred and fifty to two hundred pounds; a few have been taken over that. The females are a third smaller. The young in first coat have black spots.

The cougar never attacks man but preys on deer, horses, calves, etc. There are several different forms; one or other of these is (or was) found from Ottawa, Minnesota, and Vancouver Island to Patagonia.



Cougar



Lynx

**Wild Cat or Bob Cat**  
(*Lynx rufus*)

This is somewhat like the Canada lynx but is more spotted, has smaller feet, and the tail has several dark bars above and is pure white on the under side of the tip.

There are several species of bob cats; they cover the timbered states and enter Canada in Ontario, going north to Lake Simcoe.

**Fox**  
(*Vulpes fulvus*)

The fox is about four feet from snout to tail tip; of this the tail is sixteen inches or more; it stands about fifteen inches at the shoulder. It rarely weighs over fifteen pounds and sometimes barely ten. The fox is known by its bright, sandy-red coat, black ears and paws, its white throat, and the white tip at the end of the tail. At a distance the fox's ears and tail look very large. The silver or black fox is a mere color freak with black coat and white tail tip. Red foxes are found throughout the heavily timbered parts of North America north of latitude thirty-five degrees.

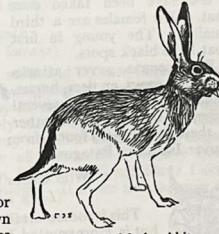
**Gray Wolf**  
(*Canis occidentalis*)

The wolf is simply a big wild dog with exceptionally strong jaws and general gray color, becoming dirty white on the under part. The wolf is found in all parts of North America, except where settlement has driven it out, and varies in color with locality. The Florida wolves are black, Texan wolves are reddish, and Arctic wolves are white. Wolves weigh from

horizontally. This abundant animal is found throughout North America within the limit of trees wherever there is fresh water. It is the most abundant fur on the market.



Muskrat



Black-tailed jack rabbit

**Jack Rabbit**  
(*Lepus Californicus*)

The jack-rabbit, famous for its speed and its ears, is known by its size, which about doubles that of a common rabbit and

seventy-five to one hundred and twenty pounds and are distinguishable from coyotes by the heavy muzzle and jaws, greater size, and comparatively small tail, which is often held aloft. Wolves nowadays rarely molest man.

**Coyote**  
(*Canis latrans*)

The common coyote is like a small and delicate edition of the gray wolf. It is much smaller, weighing only twenty to thirty pounds, and is distinguished by its sharp, fox-like muzzle and large bushy tail, which is rarely raised to the level. In color it is much like the ordinary gray wolf but usually more tinged with yellow. It is found in all the interior country from Wisconsin to Oregon and from Mexico to Great Slave Lake. There are several different varieties. It never attacks man.

**Otter**  
(*Lutra canadensis*)



Otter

The otter is a large water weasel with close, dense, shiny fur and webbed feet. It is known by its color — dark brown above shaded into dark gray below and white on the cheeks without any markings — and by its size. It is about forty inches long and weighs about twenty pounds. It is found throughout North America within the limit of trees. Its fur is very valuable. It feeds on fish.

**Weasel**  
(*Putorius noveboracensis*)

The common weasel of New England is about the size of a big rat; that is, it is sixteen inches long and all brown with the exception of white chin, throat, breast, and paws, and black tip to the tail. In winter it turns white except the tail tip; that does not change.



Weasel

The whole continent is inhabited by weasels of one kind or another. To the north there is a smaller kind with shorter tail; on the prairies a large kind with a very long tail; but all are of the same general style and habits. A very small one,



the least weasel, is only six inches long. It is found chiefly in Canada.

**Mink**  
(*Putorius vison*)

The mink is simply a water weasel. It is known by its size, larger than that of a common weasel, as it is twenty-four inches long of which the tail is seven inches; also by its deep brown color all over except the throat and chin which are pure white. Its fur is brown, harder and glossier than that of the marten, and worth about a quarter as much. It does not turn white in the winter. One form or another of mink is found over all the unarid parts of North America from the north limit of trees to the Gulf of Mexico.



Mink

**Skunk**  
(*Mephitis mephitis*)

The skunk is known at once by its black coat with white stripes, its immense bushy tail tipped with white, and its size, nearly that of a cat. It weighs three to seven pounds. It ranges from Virginia to Hudson Bay. In the Northwest is a larger kind weighing twice as much and with black tip to tail. Various kinds range over the continent south of latitude 55 degrees. It is harmless and beautiful. The smell gun for



Skunk

which it is famous is a liquid musk; this is never used except in the extreme of self-defence.

**Badger**  
(*Taxidea taxus*)

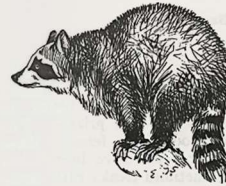
The common badger is known by its general whitish-gray color, the black and white markings on the head, the black paws, and the strong claws for digging. It weighs from twelve to twenty-two pounds. That is, it is about the size of a 'coon.



Badger

It is found in all the prairie and plains country from the Saskatchewan Valley to Mexico and from Wisconsin to the Pacific.

**Raccoon**  
(*Procyon lotor*)



Coon

The 'coon looks like a small gray bear with a bushy ringed tail and a large black patch on each eye. Its paws look like hands, and it has the full number of five fingers or toes on each extremity. It is found in all wooded regions from Manitoba south to Mexico and from Atlantic to Pacific, except the desert and Rocky Mountain region.

**Opossum**  
(*Didelphis marsupialis*)

The opossum is famous for carrying its young in a pouch in front of the body. It may be known by its dirty-white woolly fur, its long, naked, prehensile tail, its hand-like paws, its white face and sharp muzzle, and the naked pink and blue ears. In size it resembles a cat. The 'opossum is found from Connecticut to Florida and westerly to California.



Opossum

**Gray-squirrel**  
(*Sciurus carolinensis*)

America is particularly rich in squirrels. Not counting ground-squirrels or chipmunks, we have over seventy-five different forms on this continent. The widest spread is probably the red-squirrel; but the best known in the United States is the common gray-squirrel. Its gray coat white breast, and immense



Gray-squirrel