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# LINKING ENVIRONMENTAL RESTORATION AND STEWARDSHIP IN COLORADO: LEARNING FROM THE ROCKY MOUNTAIN CONSERVANCY

By

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Undergraduate Thesis

presented in partial fulfillment of the requirements for the University Scholar distinction and for the degree of

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Linking Environmental Restoration and Stewardship in Colorado: Learning from the Rocky Mountain Conservancy

Faculty Mentor: Sarah J. Halvorson

# ABSTRACT

The Rocky Mountain Conservancy (RMC) is a well-known nonprofit organization supporting restoration and environmental stewardship and leadership in Rocky Mountain National Park. The RMC promotes stewardship of Rocky Mountain National Park and similar lands through education and philanthropy. Since 1931, the RMC (previously Rocky Mountain Nature Association) has been producing educational publications, offering seminars, supporting research, and providing aid and philanthropic support to Rocky Mountain National Park and their other public lands partners. The RMC has also established a unique Conservation Corps in which college students work side-by-side with park and forest service teams in Rocky Mountain National Park and regional national forests constructing and maintaining trails, restoring historic buildings, and learning from expert park and forest managers.

The purpose of this study is to assess the restoration objectives and outcomes that have been undertaken by the RMC in Rocky Mountain National Park and the Arapaho National Forest (ANF). Since 1931, the RMC has implemented a restoration program designed to aid in constructing and restoring visitor use facilities (campgrounds, trail heads, etc.), promoting backcountry patrols to inform visitors of USFS regulations and leave-no-trace practices, and instigating standard trail maintenance including clearing downed trees from the trail, constructing drainage structures, and restoring trails through riparian areas.

My approach to this study entailed three components. First, I served as a RMCC intern (June-August 2015) to be actively engaged in RMC restoration activities in ANF. Second, as an intern living and working in the ANF, I learned first-hand through my own participation about the ecological issues and the environmental history of the area. Lastly, during the fall of 2015 I collected historical data, analyzed my findings from the summer, and compiled my information into the following thesis.

Taking a critical look at the conservation efforts of the RMC in a specific range of national forest has provided the opportunity to identify approaches geared toward protecting and restoring our natural resources, as well as to assess the efficacy of these methods. This study presents a field-based and geographically situated assessment of what has been learned and what lessons can be gained from work done by the RMC since its inception in 1931.

### Acknowledgements

Many people informed this project, both directly and indirectly. My faculty mentor and project advisor Sarah Halvorson brought tireless positive energy and ideas to the formation of this thesis; through her time and efforts Dr. Halvorson helped me formulate my ideas into a fluid and concise format with which I am very happy. Thank you also to the faculty of the Division of Biological Sciences and the Davidson Honors College at the University of Montana who have worked to inform my knowledge of the natural world and to inspire me to think outside the box over the past four years.

The wealth of knowledge shared by the folks at the Rocky Mountain Conservancy and from both the National Park Service and Forest Service of Colorado has been invaluable in the production of this work and for that I am very thankful.

"The nation behaves well if it treats its natural resources as assets which it must turn over to the next generation increased, and not impaired, in value." – Theodore Roosevelt, 1910

# **TABLE OF CONTENTS**

INTRODUCTION	1
STEWARDSHIP AND ECOLOGICAL RESTORATION	3
Section One: Stewardship Background	3
Section Two: Ecological Restoration Background	5
Section Three: Linkages Between Stewardship and Ecological Restoration	5
METHODOLOGY	7
RESEARCH SETTING	10
ROCKY MOUNTAIN CONSERVANCY AS A MODEL OF STEWARDSHIP	11
Section One: Education	11
Section Two: Infrastructure	11
Section Three: Broader Impacts	12
CONCLUSION	14
REFERENCES	15
APPENDICES	17

#### **INTRODUCTION**

Environmental restoration and the idea of stewardship are closely connected. Environmental restoration is a very simple concept and is often used interchangeably with the terms restoration ecology or environmental remediation. Environmental restoration entails the renewal of a damaged biological, structural, or functional process in the natural world (Desjardin, 2012). Environmental restoration supports the ideals of stewardship in a number of ways. The purpose of this thesis is to examine one approach to environmental stewardship that is underway in the Colorado Rocky Mountains. Specifically, this thesis explores the Rocky Mountain Conservancy and its objectives to link environmental restoration and stewardship.

The Arapaho National Forest (ANF) is located in the Rocky Mountains, straddling the Continental Divide in the Front Range west of Denver, Colorado. The ANF consists of 2,929 square kilometers of land area and includes the Gunnison River Valley in the upper watershed of the Colorado and South Platte Rivers. The ANF has been a working forest for nearly 110 years, and there are currently six officially designated wilderness areas lying within the ANF that are part of the National Wilderness Preservation System (Frank, 2013). The Byers Peak, Indian Peaks, James Peak, Mount Evans, Never Summer, and Vasquez Peak wilderness areas all lay within the boundaries of the Arapaho National Forest. The ANF surrounds Rocky Mountain National Park (RMNP) on all sides and is influenced by both the direct and indirect impacts of anthropogenic interference in the RMNP area. The Arapaho National Forest and the wilderness within Rocky Mountain National Park constitute areas of high visitor impact and are the primary study sites informing this thesis.

Although the focus site of this study is the Rocky Mountain region of Northwestern Colorado, the concept of natural resource conservation is practiced on an historical and international scale. The idea of caring for and preserving ones resources dates back to the beginnings of human civilization. Stewards and scholars alike have been interested in the concept and practice of resource conservation and preservation since the dawn of man (Pierce, 1995). Although there is a wealth of historical, international, and national knowledge and organization involving stewardship, this thesis draws on the current North American concept of the term; specifically, that which is prevalent in the western United States. There are hundreds of

active conservation groups currently operating throughout the United States, each with a unique mission and set of maintenance and management goals. A very prominent sub-sphere of organized conservation effort falls to our nation's national parks. Each of the 59 officially designated U.S. national parks is managed by at least one supporting agency, namely the National Parks Service (NPS). Since 1916, the NPS has been devoted to the preservation and management of our designated park lands while also focusing on education and widespread advertising of good conservation and leave no trace (LNT) practices (Frank, 2013). There is an enormous amount of work that goes toward protecting and maintaining a piece of wild land and the NPS is almost never alone in these efforts. The majority of U.S. national parks are aided by nonprofit organizations that assist the park service with research grants, educational programs, trail construction and maintenance, donor funding, philanthropic action, and well-rounded naturally conservative efforts.

The Rocky Mountain Conservancy (RMC) is the nonprofit organization that supports Rocky Mountain National Park through education and philanthropy. The RMC is located in the town of Estes Park, Colorado at the gates of Rocky Mountain National Park. The purpose of this thesis is to take a closer look at the RMC as a possible model organization of environmental stewardship. To address this idea, I will first give some more detailed background on the concepts of stewardship and environmental restoration. Second, I will attempt to link the two ideas and give examples of what models of environmental stewardship might look like. I will then explore the factors and processes that are fundamental to the alignment of environmental restoration and stewardship. Through this research I will finally determine whether or not the RMC is effectively practicing those measures that allow for continued and sustainable environmental stewardship and I will assess the RMC as a model of environmental stewardship.

#### STEWARDSHIP AND ECOLOGICAL RESTORATION

The concept of stewardship has an impressively deep and rich history with mankind, dating back farther than written records can note. Indigenous peoples have a longstanding oral history that reflects the concept of stewardship and deep respect for the land (USDA, 2010). However, the term itself is often misrepresented or misunderstood in current, western culture. In the North American colloquial sphere, stewardship is often used as an empty term used to fill space in conversations surrounding topics of environment, religion, relationships, or knowledge; but this misconception stems from the fact that stewardship acts more as a term relating to thoughtful action than it does to a natural process. This thoughtful action may be applied to almost any character of human intention or activity, and is therefore present in almost all facets of the human experience. For example, any current work done on a climate action plan represents the thoughtful action of people in response to studied occurrences like global warming (Young, 2010). In this section I discuss what stewardship and environmental restoration mean in a formal context, as well as examples of institutions practicing effective forms of stewardship, specifically in relation to natural resource conservation.

#### Section One: Definition and Background - Stewardship

Stewardship is a general term used to describe the ethic that typifies the responsible planning and management of any resource (Vena, 2009). The concept is most often referred to in an environmental context but may be applied to many fields including health, economics, property, theology, information systems etc. This is not a new idea; leaders in the protestant churches of North America created the actual term 'stewardship' in the late 19<sup>th</sup> Century (Corporation for National and Community Service, 2015). However, the concept of caring for one's resources and managing assets has been around since the establishment of the Mesopotamian Empire (over 5,000 years ago) and likely predates any formal civilization. In western cultures we have seen an explosion of philosophy and thought experiments devoted to the concept of stewardship from some of America's most well respected intellectuals like John Muir, Rachel Carson, and Aldo Leopold. The overarching ambition of any well-intentioned stewardship organization is to leave their resource in better condition than when they began

engaging the landscape; this is the ideological current coursing throughout the RMC-CC program.

Natural resource (environmental) stewardship has been formally practiced in the United States since the establishment of the Civilian Conservation Corps in 1933; however, the widespread concept of responsible use and protection of the natural environment through acts of conservation in has been around much longer (Brock, 2005). It was during the philosophical, social, and scientific renaissance of the mid-sixteenth century that the western world began to believe in humanity's potential to influence and improve nature. This newfound confidence in the human capacity to affect global change was at the same time inspiring, shortsighted, and naive. For several centuries, the people of Europe and North America lived in a proverbial bubble of perceived invincibility. The economic and scientific innovations of the late nineteenth century brought forth the industrial revolution, which was soon proceeded by the atrocities of two world wars, the great depression, and nuclear conflict. It was during this time that the optimism of the renaissance era was irrevocably shattered. The experience of these tragic events forced people to reconcile with the fact that the western world was not experiencing an exponential upswing of progress. Society was forced to realize that humans were capable of unthinkable evils as well as good. In more recent decades it has become increasingly apparent that humanity has had a broad and severe impact on the natural world. Our naïve optimism is being tested once again, this time by global climate change and large-scale environmental degradation. The global community is now faced with the task of limiting any further negative impacts on Earth's ecosystems while attempting to reverse the negative impacts already prevalent due to anthropogenic interference.

In order to accomplish any act of conservation or preservation in the natural world we must employ systematic practices to ensure the success of our projects; this is where stewardship organizations come in. Environmental stewardship involves the responsible use and protection of the natural environment through conservation and sustainable practices (Desjardins, 2012). There are several different types of environmental stewards. Workers or "doers" are the individuals that go out into the field to accomplish conservation goals; they physically have their hands in the project and work with other stewards to carry out the objective. Donors are the individuals or agencies that contribute financial assistance to the cause. Conservation projects require equipment, time, training, and often paid labor which is nearly impossible to fund without grants

from donors who support the enterprise. Finally, there are natural resource stewardship practitioners. Practitioners are "environmental managers" who work daily to shepherd scientists, stakeholders, government agencies, or any other satellite group toward a stewardship outcome.

#### Section Two: Definition and Background - Ecological Restoration

Environmental or Ecological restoration refers to the "practice of renewing and restoring degraded, damaged, or destroyed ecosystems and habitats in the environment by active human intervention" (Allen, 1997). This is becoming increasingly more important as western society continues to squander natural resources and loses sight of the value of those that are left. People have been practicing ecological restoration for many thousands of years but the scientific field of restoration ecology was not formally identified until the late 1980's, by John Aber and William Jordan of the University of Wisconsin, Madison. Since then, endeavors into the natural world have seen an explosive increase in the realms of science and investigation. North American citizens are now understanding how precious our natural resources are and to what degree our presence in wild environments has had a negative impact. Rampant damage do to deforestation foundation, 2010). It is the responsibility of humans, as residents of planet earth and with the means to do so, to implement restorative measures that can help to ensure the presence of natural resources for future generations.

#### Section Three: Linkages Between Stewardship and Ecological Restoration

The American public has become increasingly more informed and more alarmed at the current rate of our natural resource consumption. As a result, the establishment of resource-protecting legislation, think tanks, and conservation organizations has seen an astronomical spike in the last ten years. In addition to the land parcels designated for particular restorative and conservative efforts, many states have established programs, factions, and coalitions dedicated solely to environmental and natural resource stewardship. One such nonprofit organization is the Rocky Mountain Conservancy (RMC) of northwestern Colorado (est. 1931). The RMC is heralded as one of the oldest associations cooperating with the National Park Service. As a supporter of the NPS, the RMC manages the Rocky Mountain National Park Fund, which provides immense philanthropic support for projects within and around the park. These endeavors include land protection, capital construction, historical preservation, trail

construction/maintenance, and educational programming. In conjunction with direct park service assistance, the conservancy also offers indirect benefits to the community such as field institute programs, interpretive publications, graduate-level research funding, and the coordination of the RMC Conservation Corps. The Rocky Mountain Conservancy Conservation Corps (RMC-CC) is a unique organization established under the larger body of the RMC that allows young adults the chance to engage in intensive field-based work and education in Rocky Mountain National Park and the Arapaho-Roosevelt National Forest while also exploring opportunities for careers in conservation (Rocky Mountain Conservancy, 2015).

The RMC-CC is a special organization not only because its participants assist the NPS with the myriad of tasks involved in caring for an officially designated national park, but they also involve themselves with several other regional land agencies such as Colorado State Parks, Colorado Forest Service, and Bureau of Land Management Sites. The conservation corps managed by the RMC is just one of many nationally recognized corps programs dedicated to the protection, appreciation, education, and maintenance of our natural resources. Conservation Corps groups are daughter associations that can trace their roots back to the most popular program of Franklin Roosevelt's New Deal, the Civilian Conservation Corps (CCC). The CCC was a public work relief program that ran for nine years during the height of the Second World War. In addition to it's primary goal of providing young men with unskilled manual labor jobs related to the conservation and development of natural resources, the CCC also led to a greater public awareness of the outdoors and a heightened appreciation for the nation's natural resources (Brock, 2005). Like the CCC, the RMC-CC is concerned with providing a nationally recognized comprehensive program for the protection and development of natural resources, primarily regional forested and timbered areas. The primary objective of the RMC-CC is to provide college aged kids (18-23) with a rigorous service work experience coupled with natural resource conservation education in an attempt to foster the passion, knowledge, and skills of tomorrow's conservationists. Crewmembers work to preserve the natural and cultural heritage of the Rocky Mountain region - through trail construction and maintenance, historical building restoration, and regional environmental education - while also exploring conservation career opportunities. The program has had great success in developing positive ideals of protected area management and stewardship in its participants (Rocky Mountain Conservancy, 2015).

#### METHODOLOGY

In my three months as an RMC-CC intern I gained on-the-ground working knowledge of various trail maintenance tasks as well as a breadth of knowledge of the local geological and cultural history. I adopted a mixed-method approach to better understand the avenues by which the RMC links environmental restoration and stewardship. I performed extensive field based data collections as well as a detailed literature review on the history of the program and of Rocky Mountain National Park. For the span of three months (June-August) in the summer of 2015 I dedicated 100% of my time to living and working with the RMC. As an intern with the RMC-CC I was able to spend considerable amounts of time in Rocky Mountain National Park and the surrounding forests making observations and conducting interviews. Through the aid of key informants and informal conversations with a wide range of stakeholders I was able to adequately assess the restoration objectives and outcomes that have been undertaken by the RMC.

To aid in the thoroughness of my analysis, I kept the study area to regions I was physically able to visit and experience first-hand. For locations and observational photographs please refer to Appendix A. Once collected, the field data was organized by relevance and analyzed based on the above outlined conceptual framework.

It is with the mission of the RMC and the methods by which the organization attempts to successfully carry out this mission that this study's analysis is most avidly concerned. Secondarily, the data collection was designed to illuminate future projects and actions for sustained stewardship in this region.

#### Key Informants

Instruction from local geologists, naturalists, and park rangers helped me gain the natural history knowledge of the area and aided in the illustration of potential approaches for future stewardship work in the region. It was through keynote lectures by historian laureate Jim Pickering that the cultural and political history of the RMNP region was truly revealed. These talks brought to light the antiquated ideas about environmental stewardship of generations past and how acts of conservation have changed over the years.

#### Informal Conversations

Working daily with members of the U.S. Forest Service as well as other members of the RMC-CC shed light on the problems and achievements of the present conservation system in place in the Arapaho-Roosevelt National Forest. Being on the inside, it was very easy to see tensions between workers and management and, often times, the disparity between passion and occupation. It was clear that each forestry tech. and each supervisor had, at least at one point, a devotion and affection for the outdoors. Exposure to the natural beauty of the landscape and the intimate work being done with its constituents seemed to numb many of the government workers to the environment's grandeur. It was increasingly obvious that there was something to learn about the restoration system from these avid outdoorsmen and women. I have found that personal conversations with the people that live the lives of ecological stewards everyday is perhaps the best method of data collection when it comes to discovering how conservation organizations function from the inside.

#### Participant Observations

Participant observation was a key method in the collection of in-depth and nuanced information about the stewardship process. It was my goal to discover what was being done on a daily basis that contributed to the effective environmental restoration and stewardship in Rocky Mountain National Park and the Arapaho-Roosevelt National Forest. Being a conservancy intern working with the U.S. Forest allowed me to see aspects of both the legislative/managerial side of the issues and the physical/labor-intensive angle. Becoming a worker and individual who *needed* to be concerned with the efficiency and efficacy of local environmental stewardship - in order to better accomplish my daily tasks - was critical in developing a more profound understanding of the current issues, shortcomings, and achievements.

#### Survey of the Scientific and Scholarly Literature

I consulted a dissertation on the historic and present ideas of stewardship and environmental ethics (Vena, 2009) to better understand just what stewardship is and what it means to be an environmental steward. I examined a second dissertation on the establishment and effect of the Civilian Conservation Corps, with Rocky Mountain National Park as a case study platform (Brock, 2005). I used the written work *Making Rocky Mountain National Park:* 

*The Environmental History of an American Treasure* to review the ecological, cultural, and legislative history of my study site. Lastly, I examined classic works by renowned thinkers like Roderick Nash and Aldo Leopold on the theories of the meaning of wilderness and the human connection to natural spaces.

#### **RESEARCH SETTING**

Following the establishment of the Civilian Conservation Corps, many states have kept in effect programs dedicated to wildlife and natural resource conservation and protection (Dougherty, 2002). In respect to environmental stewardship, Colorado is unique in both its topography and demography. There are few places that can match the Centennial State in numbers of citizens who are truly passionate about retaining the majesty of local natural resources. Colorado is home to world-class skiing, Rocky Mountain National Forest, The Great Sand Dunes, over fifty 14,000-foot peaks, and a myriad of river corridors, vast canyons, and delicate wildlife. Citizens do not often settle in Colorado because there is great financial capital in creating a life in the mountains, rather the most precious commodity of the 38<sup>th</sup> state seems to be its grandiose peaks and abundance of unique flora and fauna. The devotion of Colorado inhabitants to keeping their homeland in pristine natural condition is evidenced by the presence of 44 state parks, 11 national forests, and 11 national parks throughout the state ("Rocky Mountain National Park," 2012). The field-based research for this thesis was conducted in both the Arapaho-Roosevelt National Forest and Rocky Mountain National Park of North Central Colorado. For official maps of the study site(s) please refer to Appendix B.

#### THE ROCKY MOUNTAIN CONSERVANCY AS A MODEL OF STEWARDSHIP

Maintaining the nature of a landscape while also promoting its grandeur and appeal for visitation is a tremendous task and work often goes slowly. As an organization engaged in primarily restorative tasks I've ascertained through my field-based research that the RMC-CC is an exemplary stewardship institution. As far as carrying out the mission of the conservancy I believe the RMC-CC does an impressive job, however no stewardship program operates with flawless efficiency; with every project that gets accomplished there are dozens others that get added to the list. The primary flaw of the RMC-CC is merely its inability to cover all the ground that it needs to, both literally and figuratively. Natural resource stewardship, especially in a region as delicate and expansive as Rocky Mountain National Park, takes enormous time and effort. The RMC-CC is a very successful model of what a stewardship program can be and yet we can learn from both their successes and shortcomings. If the passion and commitment to conservation from the RMC is any indication, I believe the resources of Rocky Mountain National Park (RMNP) and The Arapaho National Forest (ANF) will be well tended for years to come; but what can the greater Colorado region learn from this capable group and are there lessons that can be applied to the global sphere of environmental conservation efforts?

## Section One: Education

Education is the first key ingredient in a recipe for successful outdoor stewardship. The RMC-CC is dedicated to the continued cultural, geological, and practical knowledge of its interns, donors, members, and supporters. Without the historic cultural knowledge of the region it would be difficult to put any efforts toward betterment into an appropriate perspective. Without the natural history data, conservation practices would be scattered and largely ineffective. Without the knowledge of current efficacious conservation practices and the brainpower to innovate new systems, resource conservation would cease to evolve with the world that changes around it. The RMC-CC prides itself on using education as a first line of defense in the battle against local environmental destruction and I've found that this method is executed deftly by the organization.

#### Section Two: Infrastructure

The second avenue by which Colorado is benefitting from the continued work of the RMC-CC is by the establishment of an additional connection between the National Park Service

and the National Forest Service. Interns of the RMC-CC are contracted out to perform a season's worth of conservation work with either the NPS or the NFS under the greater RMC heading. As participants become engulfed in the processes of the RMC-CC they are also exposed to the NPS/NFS relationship dynamics and key differences. Both the National Park Service and the National Forest Service were established in an effort to make better use of our natural resources however the NPS was incorporated as a faction of the Department of the Interior whereas the NFS is affiliated with the Department of Agriculture. With such a seemingly arbitrary difference in official moniker, the two programs are given distinctly different overarching goals. The NPS is greatly concerned with natural resource education and is dedicated to providing regions of land on which its natural inhabitants are federally protected and available for the furthered education and enjoyment of the American people. The NFS, as an institution with agricultural affiliations, is primarily concerned with the hands-on protection of our natural crops, namely (at least in Colorado) conifer forest-scapes. Both entities have their merits but it is a distinct advantage for the natural community to have the two programs on the same page with constant information flow and involvement. By contracting out its participants to both organizations, the RMC-CC provides a bridge by which the NPS and the NFS can better relate to one another, thereby helping to more effectively manage their designated resources. Lastly, the RMC-CC benefits Colorado citizens (and really the country as a whole) by providing a skilled labor force dedicated to the restoration and preservation of wild areas. It takes extreme time and committed physical exertion to accomplish most of even the simplest restoration tasks. The construction of one 10-ft. section of turnpike can take a restoration crew of eight participants, three full days to complete. Participants must be able to hike long distances at altitude carrying tens of pounds of tools and supplies; they must then be able to use said tools efficiently and effectively to accomplish the task at hand without constant instruction. The RMC-CC takes the time to properly train its 36 summer interns in the use of tools and methods necessary to complete each new undertaking with confident skill.

#### Section Three: Broader Impacts

As a result of years of hard work from the RMC-CC, NPS, and NFS hundreds of miles of trails have been maintained in the Rocky Mountain Region, thousands of hazardous trees and tread conditions have been mitigated, and countless people have been educated in the ways of exceptional natural resource stewardship. I am prepared to argue that one of the most profound

benefits of the RMC-CC program is that it uses interns from all over the country who can then return to their hometowns and use what they have learned in stewardship enterprises on their own soil. Each summer the Rocky Mountain Conservancy changes the lives of 36 college-aged kids by teaching them what it really means to be environmental stewards; these kids take the skills they gain during their summer internship in the Rocky's to affect change in all corners of the country. To make even better use of institutions like the RMC we need to see a complete paradigm shift in the cultural and personal ideals of the average American citizen. We need greater numbers in the fight against natural resource destruction and, perhaps most importantly, we need a better standard of basic environmental education. Finally, the citizens of the United States would benefit greatly from increased awareness advocacy for the increasingly complicated situation we are finding ourselves in with reference to resource demolition and protection. Luckily, the RMC is not alone in the fight to educate and inspire citizens for a brighter environmental future. Colorado is home to numerous groups and programs that promote the conservation of our natural environment including: The Colorado Outdoor Stewardship Coalition, The Stewardship Trust of the Colorado State Land Board, the Colorado Water Stewardship Project, The Society for Ecological Restoration, and the various factions within Colorado Parks & Wildlife. For the most part, becoming a natural resource steward does not need to be a draining monetary endeavor. All it takes is the drive to see a better tomorrow for our planet and the will to put that idea into effect.

#### CONCLUSION

This research project was an effort to delve into the relationship between the stewardship ethic and environmental restoration. As a result of my time with the RMC-CC and the subsequent research I conducted on the topic of natural resource stewardship in Colorado I have determined that the restoration objectives and outcomes thus far undertaken by the RMC are at the same time well intentioned and well executed. I have concluded that the model of their operation is commendable and, encouragingly, replicable. Any fledgling stewardship organization could benefit from modeling their program after the example set by the educational RMC field institute, the organization of the RMC into different levels of action (i.e. the RMC-CC, Next Generation Fund, RMNP Fund, Field Institute, etc.), and the ability to have a broader impact on the country as a whole by bringing in environmentally conscious young people from all over the nation. The RMC continues to do great work in the Rocky Mountain region of northwestern Colorado but I think an appropriate goal for the future should include expansion of the organization to cover more southerly regions of the state; by this I mean both the expansion of the parent organization itself and the model for natural resource stewardship that the RMC has thus far provided. I believe Colorado, as a state rich with natural resources worth protecting, is a great place to focus any research and start any organization with the focus of natural resource stewardship and environmental restoration efforts. This study has contributed to the greater understanding of the relationship between resource conservation and stewardship. This research also informs a working knowledge of the processes and practices required to deem an organization an effective environmental stewardship model.

This study was limited by the lack of a large survey of public opinion on the conservation of RMNP resources and the work done by the RMC. Further dilemmas were presented by the combination of time constraints and the vast amount of literature currently available on the topic of environmental restoration (enough to spend years exploring).

I would recommend future research on large-scale environmental organizations (i.e. Greenpeace, Sierra Club, Audubon Society, World Wildlife Fund, etc.) and their models for international conservation efforts. A comparison of these organizations to grass-roots institutions in growth, business modeling, and core values could inform the establishment of more groups aligning themselves with the cause of environmental stewardship.

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# APPENDIX A



Figure1: Shadow Mountain Crew on the Continental Divide Trail (Photography Source: Kimmett, 2015)





Figure 2: RMC-CC Crew Rehabs a Trail Outside Rocky Mountain National Park

(Photography Source: Elliot, 2015)

Figure 3: Part of Shadow Crew on 4<sup>th</sup> of July Patrols (Photography Source: Murray, 2015)





Figure 4: Shadow Crew 4<sup>th</sup> of July Backcountry Patrols (Photography Source: Fortin, 2015)

Figure 5: *Planting Native Species with the Estes Crew* (Photography Source: Elliot, 2015)

# **APPENDIX B**



Figure 6: *Shaded View Map of Rocky Mountain National Park* (Photo Source: My Rocky Mountain Park, 2010)

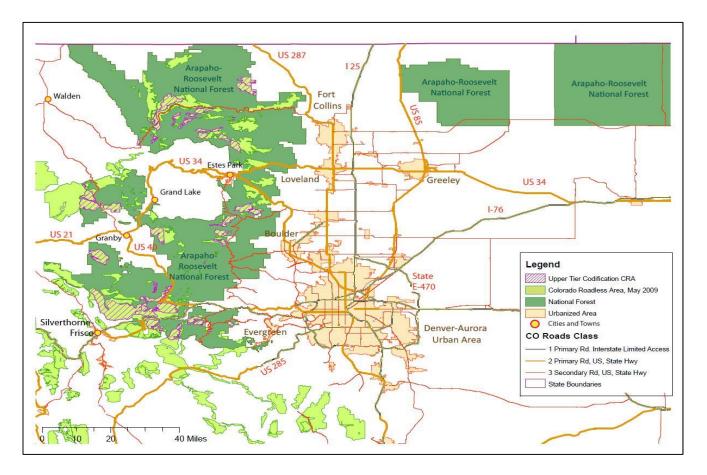


Figure 7: Shaded Map of Arapaho-Roosevelt National Forest (Photo Source: Colorado Deserves More, 2012)