

NATIONAL PARK SERVICE UNIFORM APPLICATIONS

A Thesis

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by

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## ABSTRACT

This research explored the role of National Park Service uniforms in society. The aim is to better understand the wearers' experiences and their social cognitive processes of the NPS ranger uniform. Further, this study relied upon the human lived experiences of NPS rangers and closely examined the role of women in the NPS historically through present. The purpose of this research was to develop recommendations for the process of uniform design that are grounded in the history of the NPS, with an understanding of current rangers' social cognitive experiences, and focus on women as a historically underrepresented group in the NPS. Data were collected using an interdisciplinary multi-method approach and used archival object-based analysis, ethnographical research, and quantitative and qualitative measures to assess fit satisfaction.

## BIOGRAPHICAL SKETCH

Jane Leyva pursued a Master of Arts in Apparel Design within the College of Human Ecology at Cornell University from 2018-2020. She received a B.S. degree in Fashion and Textile Technology with a merchandising concentration from the State University College at Buffalo, and an A.A.S. degree in Advertising and Marketing Communications from the Fashion Institute of Technology. Monumental in her academic, personal, and professional development was studying abroad on Semester at Sea, where she circumnavigated the globe to sixteen cities in twelve countries. Jane is passionate about environmental and social justice activism within textiles and apparel. She enjoys hiking, distance running, and is a proud surfer (in training).



## DEDICATION

This thesis is dedicated to my grandfather Floyd E. Anderson and grandmother Helen J. Schweichler, who passed away during my master's education. They were bedrocks to my family, and we miss them terribly. However, the foundation they built remains strong, their light continues, and the torch is carried on.

I would also like to dedicate this thesis to my childhood best friend Taylor C. Binnert. It has been nearly seven years, but I hold your inspiration, infectious laughter, and smile with me every day. Your spirit shines in so many of us and lives on within the Mohawk Turtle Clan.

*Some people come into our lives  
and leave footprints on our hearts  
and we are never ever the same.*

*They help us become aware  
of the delicate winds of hope...  
and we discover within every human spirit  
there are wings yearning to fly.*

*They celebrate the true essence  
of who we are...  
and have faith in all  
that we may become.*

*Throughout our lives we are sent  
precious souls...  
meant to share our journey  
however brief or lasting their stay  
they remind us why we are here.*

*To learn...to teach...to nurture...to love.*

-Excerpt from the poem "Some People" by Flavia Weedn

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## Chapter 1: Introduction

### National Park Service Uniform Applications

Located across an array of topographies, climatic regions, historical sites, ecologically and biodiverse settings is a recognizable human figure – the National Park Service (NPS) ranger. The NPS ranger is recognized by the “green and grey” including the grey button-down with the NPS shoulder logo patch, green trousers, and the iconic flat brimmed hat. The ranger uniform in many ways has become a symbol of heritage and pride among citizens, park visitors, and rangers alike. The aim of this research is to better understand the wearers’ experiences and their social cognitive processes of the NPS ranger uniform. This study closely examined the role of women in the NPS historically through present, and sought to understand why “many women are still unhappy with the sizing and fit of the women’[s] uniform today” (NPS Uniform Collection FAQs, 2019).

In the last four years, the NPS has recorded total annual recreation visits<sup>1</sup> in excess of 318 million with a record 330 million in 2016 when the NPS celebrated its centennial. (*U.S. National Park Service*, 2019). During a weekly address to celebrate the 100<sup>th</sup> anniversary, former President Barack Obama stated the importance of National Parks and protecting them:

As we look ahead, the threat of climate change means that protecting our public lands and waters is more important than ever.

So in the coming years and decades, we have to have the foresight, and the faith in our future, to do what it takes to protect our parks and protect our planet for generations to come. Because these parks belong to all of us. And they’re worth celebrating – not just this year, but every year. (*Weekly Address*, 2016).

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<sup>1</sup> The definition of a recreation visit is the entry of persons onto lands or waters administered by the NPS for recreation purposes (*U.S. National Park Service*, 2019).



Leadership figures play an important role in public understanding and awareness of the NPS. Perhaps the most recognizable and arguably famous element of the NPS uniform includes the ranger hat, often colloquially referred to as the “flat hat” or “stetson.” According to the NPS Uniform Manual, “The ranger hat is the most important, recognized and respected symbol associated with the NPS, and should be worn with pride and care.” (*Reference Manual 43 Uniforms*, 2000, p .22). The uniform elements, specifically uniformed apparel, contribute to the overall identity and perception of the NPS. According to Phillip Musselwhite, graphic designer since 1973 and Associate Manager of NPS Identity, “Although never codified or consciously managed, the distinctive NPS public image emanated primarily from three visual components: its park rangers’ attire, its architecture, and its distinctive arrowhead logo” (Musselwhite, 2009). The park ranger uniform is an integral aspect of visual communication to the public and embodies the values of the NPS.

### ***Purpose of Thesis***

This research aims to develop recommendations for the process of uniform design that are grounded in the history of the NPS, with an understanding of current rangers’ social cognitive experiences, and focused on women as a historically underrepresented group in the NPS. More specific, this research focused on the NPS uniform, and adds new knowledge to the topic and scholarship of uniforms and uniformity at large. First, historically how were elements of fashion adopted and/or perpetuated through the NPS uniform? Next, what kinds of identities are produced through the NPS uniform and how are they construed or conveyed through the employees who wear them? Furthermore, how do the NPS uniforms meet (or not) the needs of the wearer in their various duties and activities? Fourth, how do their current textiles and

subsequent apparel designs and finishings meet the demands of their profession? Finally, what do NPS employees feel that they express through their uniform?

This study adopts methods of theory and discourse analyses to examine the intersections of apparel design, human ecology, sustainability, fashion studies, culture studies, and anthropology and celebrates the nature of this cross-disciplinary lens and applies it to the over 100-year history of the NPS ranger uniform.

## **Chapter 2: Literature Review**

This chapter reviews key areas of literature in fashion studies, the social psychology of dress, and the history of the NPS uniform. First a background of fashion studies is provided in regard to the social psychology of dress. Next, the subject of uniformity is discussed. Third, a history of uniforms is presented, with a focus on the roots and evolution of women's uniforms in the NPS. Insignia is discussed and examines how these elements provide visual communication. Finally, an overview of the NPS uniform organizational structure and identity is reviewed.

### ***Fashion Studies***

Appearance perception and inference involves social cognitive processes (Livesley & Bromley, 1973). Social cognition in the context of the social psychology of dress is defined as “the use of mental or cognitive processes to think, perceive, judge, and make inferences about people” (Lennon et al., 2017, p. 68). The twofold process of social cognition include the (1) social focus of people in interpersonal situations and (2) cognitive mental processes (Lennon et al., 2017, p. 68). Examples of the social focus of people in interpersonal situations include how personal traits and characteristics are attributed to clothing cues such as in the workplace or a job interview. Self-demeanor factors also contribute to this. The cognitive mental process includes person impression formation and trait perceptions based on clothing. For example, a person who wears glasses may be rated as more intelligent than when not wearing glasses (Thornton, 1944). Higgins (2000) discussed the two sides of social cognition and how social and cognitive variables influence each other. Ultimately, social-cognitive principles are those that contribute to understanding mutual influence

According to Stone (1962) symbolic interaction maintains that one's dress communicates information because of attributed meanings and dress cues. For example, uniforms communicate

affiliations and associations to various groups such as religion, ethnic groups, occupation, athletics, or education. Kaiser (1997) emphasized that two-way interaction is a major focus that involved both appearance management and appearance perception (p. 39). Herbert Blumer most widely expanded upon the idea of symbolic interaction (1969b) and applied it to the fashion process and system (1969a). Blumer argued that meanings are constructed and reconstructed in everyday life through a dynamic and interrelated process in which humans make sense of social situations and behaviors. Therefore, from Blumer's perspective, our fashion choices are inextricably linked to our interactions in the social world as well as the internal cognitive processes experienced by each participant.

Marcel Mauss (1973, 1985) introduced the "triple viewpoint" where body techniques are learned behaviors through sociological, psychological, and biological attributes. Select examples of body techniques include walk, run, sleep, sit, climb, eat, and drink. As argued by Mauss, there are no natural human body techniques, and result from imitative behaviors within a habitus and society. Craik (2005) adopted and applied the "triple viewpoint" theory. Craik introduced a typology of uniforms that placed uniforms along two spectrums, stability-instability and tradition-innovation. This approach allowed for a systematic way of categorizing uniforms as outlined in Table 1.1 (p. 127).

	<i>Resist change</i>	<i>Slow change</i>	<i>Periodic change</i>	<i>Rapid change</i>	<i>Quasi-uniforms</i>	<i>Informal uniforms</i>
Characteristics of uniforms	Traditional, historic, classical elements resist change	Retain distinctive elements, stable	Updated periodically, classic elements plus conservative fashion motifs, generally stable	Change regularly, derived from high fashion mixed with normative elements, date quickly, unstable	May change arbitrarily (e.g. women's corporate wear) or be reasonably stable (e.g. men's suits), normative influence by fashion	Apparently personal choice, no rules, prestigious, imitation, unstable
Occupations	Ecclesiastic, legal, formal academic dress, blue-collar trades, funeral directors, laboratory workers, orchestral conductors (male)	Medical (doctors, nurses), dental, etc. butchers, chefs, military	Corporate-banks, service providers/customer interface, healthcare and allied police, park rangers	Airline cosmetologists, restaurants and food outlets, sports teams	Quasi-corporate, e.g. administrative, education, social work, politicians, gardeners, professional choirs	Artists and cultural workers, hairstylists, popular musicians, boutique staff, university students, demonstrators, street market vendors

**Table 1.1:** Typology of Occupational Uniforms relating to Stability-Instability and Tradition-Innovation from Craik (2005, p.127)

A limited body of literature exists on NPS rangers uniforms, mostly drawn from Workman (1991, 1994, 1998b, 1998a). Specifically “park rangers” (Craik, 2005; Klein, 2000, p.105) and “parks and recreation directors” (Kaiser, 1997, p. 374) make miniscule appearances in the fashion studies and clothing social psychology literature landscape. According to Craik, the park ranger “have uniforms that undergo periodic change, such that classic elements are combined with some nod to conservative trends” (p. 130). Therefore, drastic or sudden changes to the uniform could alter or undermine their identity.

According to Craik (2005), the park ranger is defined as a regulatory occupation that also includes police, security guards, and prison officers (p. 130). Due to classic design elements regulatory occupations are identifiable and easily recognized such as the collared shirt and shoulder epaulettes, and flap chest pockets. Expectations of the wearers perceived skills and

knowledge are instantly communicated. Based on the characteristics of the park ranger and its classification as a regulatory occupation, it would be expected to resist change. The NPS ranger uniform specifically fits into this group as it has received modest changes throughout history and retains the easily identifiable “green and grey” colors and the iconic flat brimmed hat. These design element “cues” position the NPS ranger to possess certain occupational authority traits such as furthered knowledge, enforced rules, or being a resource to visitors.

The NPS uniform is a recognizable uniform and iconic piece of our National Parks and the ranger identity. The ranger uniform holds material cultural meaning in embodying the broader context of the park service mission.

Uniforms are “ambiguous masks of appearance” which undergo and experience complex social play (Craik, 2005), and hold two faces where there is a constant interaction between each. The first face, “symbolism of uniforms,” includes sameness, unity, regulation, hierarchy, status and roles (Craik, 2005). The second or other face includes, “informal codes of wearing and denoting uniforms,” as well as subversion, individual interpretation and difference (Craik, 2005, p. 7).

Uniform development is influenced by multiple (often competing) factors of fashion and military factors. Craik states park rangers have adopted a military-styled uniform (Craik, 2005, p. 47), which is further complicated by the “military look” and its’ influence on fashion, specifically men’s clothing (p. 48). In this regard, are NPS uniforms unique one and of themselves or are they an imitative and an adaptation of militaristic apparel influences?

Uniforms are influenced in whole or partially from traditional military uniform and dress (Joseph & Alex, 1972; Craik, 2005; Steele, 2005). Steele (2005) referred to military style as a “continuous process of osmosis” (Steele, 2005, p. 410). Steele argued that military dress has

silently became a part of everyday dress after soldiers returned from war; soldiers also began to look more and more like civilians. Elements like cargo pants, flight jackets, safari jackets, and sailor pants have become everyday wear. Furthermore, camouflage, multi-pocket vests, cinched trench coats made their way on fashion runways (Steele, 2005, p. 410).

### ***Historical Context***

The military uniform, as Daniel Roche (1994) summarized in his examination of clothing in the Ancient Regime in France, emerged in the seventeenth century. Military dress responded to fashion, especially in the case of officers who vied to be in closer proximity to the king (Roche, 1994, p. 223). For soldiers, uniforms were functional and responded to tactical needs and experienced “slow rhythms” of changes (Roche, 1994, p. 223). The uniform was an important force from the Ancient Regime to the court society. It shaped actions that included physical and mental habits like posture, aesthetic sensibility, and cleanliness (Roche, 1994; Craik, 2005, p. 30). The uniform influenced the way the body and clothing interacted.

What emerged from this point was how rank and status became communicated. Overall uniform aesthetics included their fabrics, construction, materials, as well as how they were maintained and cared for. Elements like brass buttons, leather, button pockets, badges, pins, braid, and gold thread were used to indicate status (Craik, 2005, p. 30). Tensions arose between decorative elements and their practicality (Roche, 1994).

The first uniforms of the NPS were worn by soldiers. The NPS uniform has received modest modifications and uniform changes throughout its’ history, and made it a recognizable uniform and iconic piece of our National Parks and the ranger identity. The ranger uniform holds material cultural meaning in embodying the broader context of the park service mission. Author and researcher Bryce Workman provided a foundational history of the NPS uniform history

1894-1991. Uniforms made their first appearance in the national parks on August 18, 1886, when Troop M of the 1st U.S. Cavalry arrived at Yellowstone National Park (Workman, 1994, p. 2). Soldiers wore campaign hats, boots, and olive drab uniforms (Workman, 1994, p. 3).

As Workman described, up to this point the NPS was “*In Search of an Identity*” (Workman, 1994). “Apparently the early rangers thought of their work as a job, not a profession. It wasn't until the separation of the parks and forest reserves in 1905 and the uniforming of the latter by the Forest Service, that the park rangers gave serious thought to their own identity” (Workman, 1994, p. v). The first authorized uniform worn by rangers in the National Park System was in late June 1911 at Glacier National Park (Workman, 1994, p. 18). The decision was reached in 1919 that all officers and rangers should wear a uniform, which should consist of straight-brimmed, broad-brimmed hat with the brim stiff enough to maintain a straight shape and not curl at the edges (Workman, 1994, p. 71). Between 1932 – 1970 regulation and dress code policy was implemented and described as a period of “*The Developing Years*” (Workman, 1998b). The first NPS Uniform regulations manual was issued in 1938.

NPS researcher and geography professor emeritus Lary Dilsaver (2016), provides breadth and depth to the detailed account of critical documents that have shaped laws and policy of the NPS. Dilsaver (2016), described how such documents have influenced the NPS’ past, present, and prospective future. Critical documents include the early history of Yosemite and Yellowstone to the Organic Act of 1916, Mission 66, and the Imperiled Promise Report. These documents offer rich insight to understand the narrative, history, as well as visual identity of the NPS. The Organic Act of 1916 states (as referenced by Dilsaver, 2016):

“...to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” (p. 34).



Dr. Ryan Winks a Yale University History Professor emeritus and a former National Parks System Advisory board member critiqued this statement. During a televised speech on *National Parks and the West*, Winks argued several problems rest within those words. Over time the dual mandate to fulfill both aspects of conservation and recreation have generated increased tensions (*National Parks and the West* | C-SPAN.org, 2000). Today the mission of the NPS (2020) reads:

The National Park Service preserves unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations. The Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world (*Our Mission section*).

Dilsaver (2006) acknowledged “the confusion of managing such a system for both preservation and recreation has been a frustrating puzzle since the beginning” (p. xiii). The park ranger is ultimately tasked to carry out these often conflicting dualities.

“Today the movement, initiated in the United States, is world wide” (*National Parks and the West* | C-SPAN.org, 2000, 16:18). According to the International Union for Conservation of Nature, there are more than 4,000 National Parks around the world (*Protected Planet*, n.d.). As cited by Dr. Ryan Winks (2000), the United Nations advises 4% of the land of a nation to be set aside for National Parks (*National Parks and the West* | C-SPAN.org, 2000, 17:24).

### ***Women’s Historical Context***

Women have been on the Service payroll since 1918, however, the NPS has for most of its existence, been a male-dominated organization. The first two “Rangerettes,” as the early women were known as, became official temporary employees of the NPS in 1918 (Lichtenstein, 1976; Workman, 1998a). As uniforms were not specified for women at this time “camping clothes” were worn. Clare Marie Hodges, one of the first Rangerettes, is photographed mounted on horseback wearing a hat and badge pinned over her left pocket (Workman, 1998a, p. 57)

(Figure 1.1). In *National Parks and the Woman's Voice* (Kaufman, 2006), Ms. Hodges' clothing is cited as "a middy blouse and divided skirt" (p. 73).



**Figure 1.1:** Clare Marie Hodges a temporary ranger in 1918 on horseback. (NPSHPC-HFC/74-19)

The attire of women in the NPS further exemplified how insignia served a critical asset to identity, where other forms of communication such as clothing were not being utilized in the same way. "Due to the lack of official guidance, early Park Service women wore whatever the park superintendent or their own whim dictated. Badges were pinned on all types of clothing to identify their association with the Park Service." (Workman, 1998a, p. 7) (Figure 1.2).



**Figure 1.2:** Badges were pinned to all types of clothing to identify women in the NPS (NPSART-Gilbert B. Cohen, artist-HFC/ARM#GR-0002 1 thru 5)

“Women's role in the Service was never clearly defined until the 1960's, at which time a Victorian mentality prevailed, treating them as objects to be protected, instead of the ranger status to which they aspired.” (Workman, 1998a, p. vi). The women's uniforms underwent numerous iterations mainly including Women's Auxiliary Army Corps (WAAC), variations of airline stewardess, followed by fashion elements integrated into the uniform (Workman, 1998a, p. vi). Workman described the “irony” of gender and uniforms and states “women in the parks should have worn men's pattern uniforms at the beginning of their involvement with the Service and after many years of finagling with a uniform of their own, end up looking like their male counterparts, or should we say, like a ranger” (1998a, p. vi).

It can be acknowledged some uniform iterations held the intent, “to elevate the women on a pedestal” (Workman, 1998a, p. vi). However some women did not desire these explicit uniform differences and faced challenges doing fieldwork (Workman, 1998a, p. vi). Today women wear and are recognized equivalent to men, however that was not the case throughout much of the early women's history.

Beginning in 1920 all permanent positions for women were classified as naturalists (Workman, 1998a, p. 2). “The National Park Service had no provisions, uniform or otherwise, for women. Consequently, they were left, pretty much, to their own devices as to what they were to wear.” (p. 2). Clothing worn during this period included hunting coats, sweaters, ladies riding coat, vests, and jodhpurs. In 1925 Frances Pound wore what appeared to be a uniform of her own design or from the marketplace, which included a knee length coat with slash pockets, badge, sleeve brassard, and collar ornaments at the lapel points (p. 2) (Figure 1.3). This inference is made due to the material closely resembling that of what's used in the breeches. She is also known to have carried an occasional sidearm [gun]. Frieda Nelson and Margaret Fuller wore the

standard ranger uniform but tailored it for women including the buttons which opened right to left (p. 2).



**Figure 1.3:** In 1925 Frances Pound wore what appeared to be a uniform of her own design or from the marketplace. (NPSHPC-YELL/130,375)

Women's dress in 1930s and 1940s became increasingly standardized as a result of Carlsbad Cavern National Park and the number of women working at this site (Workman, 1998a, p. 9, 13) (Figure 1.4). In a letter communication with John C. Preston, the Fechheimer Brothers Company in the spring of 1940 included drawings for a distinctive uniform for Park Service women to the uniform committee chairman for the committee's perusal (Workman, 1998a, p. 4). According to Workman, women's uniforms were controversial subject, with everyone having ideas as to what form it should take (1998a, p. 9). A committee of women was set up to decide the issue on October 20, 1941 (1998a, p. 9), however the Japanese attack on Pearl Harbor halted further speculation (temporarily) in both women's as well as men's uniforms and resulted in wool cloth reserved for military uniforms (1998a, p. 11). According to Kauffman (1985), events outside of the service influenced opportunities for women to be rangers (p. 6)



**Figure 1.4:** The 1930s and 1940s women’s uniforms was the onset of becoming more standardized (NPSART Gilbert B.Cohen, artist HFC/ARM#GR-0002-6 &-7)

“With the able bodied men again going off to war, women, especially NPS wives, were enlisted to help in the parks, particularly in the offices and entrance stations. At that time, in the field, even office help wore uniforms” (Workman, 1998a, p.12). In 1943, a material saving uniform was identified for women and consisted of the following:

Coat, 16oz. elastique ‘WAAC’ type. Skirt, 16 oz. elastique, gores and 4 pleats. Overseas Cap, 16 oz. elastique. Shirt, steel grey poplin with shoulder straps and pleated pockets. Necktie, four-in hand, ‘Barathea’ dark green. Oxfords, cordovan color, plain toe Belt, using NPS hat-band for this purpose with buckle to be added. (p. 12)

Monumental was the standard uniform authorization for women of the National Park Service on June 2, 1947, yet it was segregated under “Special Uniforms” (p. 13-15).

Amendment No. 1 to Volume 19 (1947) of the National Park Service uniform regulations:

Coat: The standard men's fatigue jacket.

Skirt: Six-gore skirt of same material as jacket.

Hat: Soft felt hat with small snap brim, turned up at back and sides and down over forehead in front, in matching color with narrow grosgrain ribbon on dark green color.

Shirt: Convertible or standard Peter Pan collar type of steel-gray color. Long sleeves buttoned at the wrist. Shirts may be worn open at the neck when so authorized by the superintendent. Such authorization, when granted, shall apply to all uniformed personnel within an area.

Necktie: Draped bow of soft scarf material, or four-in-hand tie. Dark green in color. (During the summer season, the necktie may or may not be worn, subject to the conditions prescribed in the preceding paragraph.)

Shoes: Oxford type, dark brown color, plain toe.

Stockings: Neutral color.

Belt: Not mandatory. (The standard National Park Service hatband may be adapted for this purpose, if desired, by the provision of buckles instead of the standard thong for lacing.)  
Buttons: Regulation National Park Service buttons are prescribed.  
Insignia: Same as for men employees  
Materials: Same as for men employees.

The resistance of women adopting the same garment article as men, included the fatigue jacket and prompted a uniform regulations amendment on May 24, 1950 (Workman, 1998a, p. 15). Within, it “illustrate[d] the proper uniforms and the correct methods of wearing them,” which included a WAAC blouse and Army overseas cap (p. 15).

The definition (and to a certain extent division) of gender roles was made clear in a 1960 written statement. While it urged officials to “...employ in its uniformed positions the best qualified men and women available” (Workman, 1998a, p. 16), it also claimed that:

...women cannot be employed in certain jobs, such as Park Ranger or Seasonal Park Ranger...in which the employee is subject to be called to fight fires, take part in rescue operations, or do other strenuous or hazardous work... (p. 16)

It goes on to state in which areas women were in need of:

Participation by women employees in lecture programs, guided tours, museum and library work, and in research programs would be entirely appropriate and very helpful in many Parks. Increased attention may also be given to children's programs in some Parks and to extension work to schools for which women interpretive employees may be even more effective than men. (p. 16)

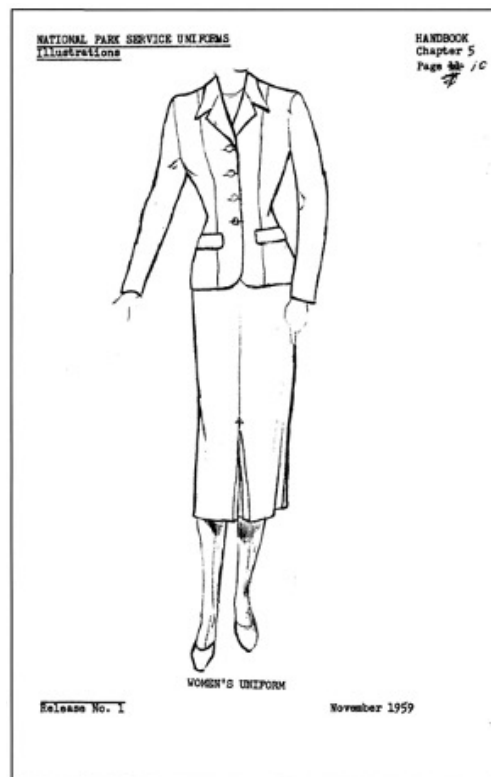
The regulations to take effect in 1961 only provided information to a dress uniform. A field and service uniform would later be introduced to expand upon the roles and duties of women.

Changes made to the next two decades of women's uniforms in the 1960's and 1970's, specifically 1961, 1962, 1970, and 1974, correspond with significant socio-cultural events and movements occurring in society as well as adopting ideological changes to what women were capable of within the NPS. Still, there were limitations for what women in the NPS could or were allowed to do.

The women's uniform changes in the 1961 and 1962 modeled airline stewardess and airline hostess variations (Figure 1.5). The uniforms were adopted from Delta airlines as well as hats from American airlines (circa 1961) and United Airlines (circa 1969). The rationale for why the NPS selected these airlines over others is not known (personal communication with archivist March 9, 2020). The 1961 uniform regulations included the jacket (Delta #A-703) with a four-button, tailored to fit, with small arrowhead patch on the left shoulder. The skirt (Delta #A-703) was to be straight with front and rear 10" kick pleats proportioned to size and worn without a belt (Figure 1.6). The 1962 amendment No. 4 used a slightly different silhouette cut to the uniform but used the same materials (Workman, 1998a, p. 22) and was the same color. "In addition to the uniform changes, the regulations now allowed women employees on duty in areas administrated by the National Park Service to wear the uniform, when authorized to do so by the Director or superintendent." (Workman, 1998a, p. 22). Initially designed for airline stewardesses, the 1962 proved totally inadequate for the variety of functions and duties for women in the NPS (Workman, 1998a, p. 27) (Figure 1.7 and 1.8). Ultimately it failed to meet a functional and fashionable outcome. Carole Scanlon, an interpreter from Independence National Historical Park, was asked to sit on the uniform committee and represent the women.

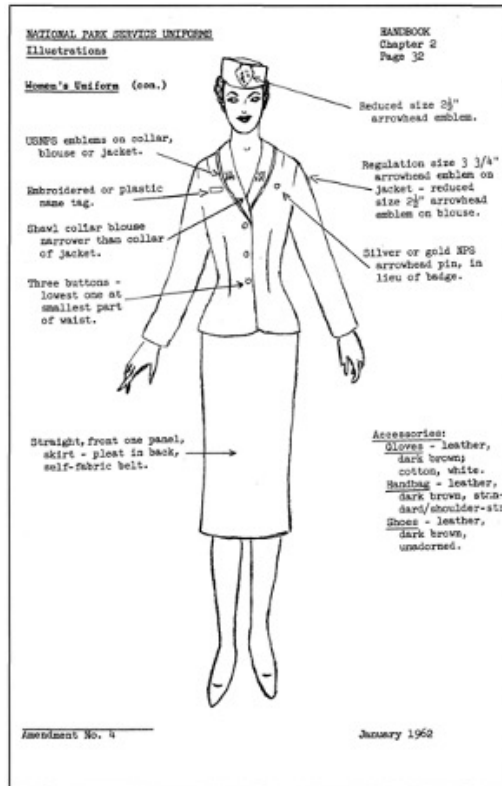


**Figure 1.5:** Women's uniforms in the 1960s (NPSART-Gilbert B. Cohen, artist HFC/ARM#GR-0002-6, -7)

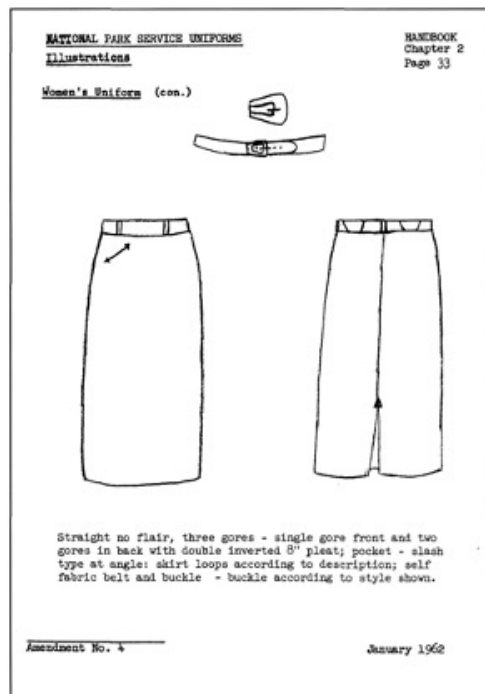


**Figure 1.6:** Illustration in the 1961 National Park Service Uniform Handbook depicting the new “Airline Stewardess” style uniform. Chapter 5, Page 10. (National Park Service Archives, HFC RG Y55)





**Figure 1.7:** Illustration from the 1962 National Park Service Uniform Handbook showing the second “Airline Stewardess” uniform. Chapter 2, page 32. (National Park Service Archives/HFC RG Y55)



**Figure 1.8:** Illustration from the 1962 National Park Service Uniform Handbook showing skirt used with the 1962 Women's uniform. Chapter 2, page 33. (National Park Service Archives/HFC RG Y55)

The proceeding steps of obtaining input among women specifically, marks an important aspect of the NPS uniform history as women had not previously been afforded such power in deciding their own uniform needs. Scanlon's duties "were to assist in the coordination of determining the needs of the women; selecting a designer, as well as a practical design; and locating a manufacturer willing to produce such a relatively small quantity within the limited uniform allowances" (Workman, 1998a, p. 31). In addition to these tasks, she was in charge of outfitting women stationed in parks nationwide. Women's uniform technical expertise was sought from various organizations, specifically the Philadelphia Textile Institute, Moore Institute of Art, Defense Supply and Support Center (Workman, 1998a, p. 31). It was recognized that there needed to be "complete coordination" of all facets for the "front line staff" (Workman, 1998a, p. 31). Mary Joan Glynn, vice president of Doyle Dane Bernbach, one of the Nations largest advertising firms and Irene Beckman, a product development associate and head of fashion styling, were tasked with providing function, as well as fashion, and to meet the unique needs of field personnel (Workman, 1998a, p. 31). Furthermore, both women believed that fashion is a reflection of living (as cited in Workman, 1998a, p. 31).

What emerged from Scanlon and Beckman's tour of the Park system were finally the wishes of women. Critical to this process was the "think tank" conducted to discuss the uniform problems of the Service (Figure 1.9). Feedback ranged from jacket function and comfort to leg protection when climbing hills, mountains, and rocks. As a result, distinctive dress uniforms were provided as well as offerings for different and varying functions. The think tank concluded distinctive dress uniforms which offered additional functions, and these changes were implemented during the 1970s. In 1970 and again in 1974, women's uniforms underwent important changes where input from women influenced their trajectory, and also arguably where

fashion was most prevalent as well as perpetuated. While the 1961 and 1962 uniform attempted to provide function and fashion, it did not explicitly adopt feedback from what women wanted as it was modeled after the airline stewardess uniform.



**Figure 1.9:** Women’s “think tank” to discuss women’s uniforms (NPSHPC-W.H.SpradleyPhoto-HFC#96-1)

The 1970 uniform according to the NPS newsletter adopted colors “that went to the roots of our natural heritage – to the colors of earth, sand, and sun” (Delozier, 1970, p. 5). The garment assortment contained a warm deep beige, white trim, and an orange accent color. “To maintain this unity of design, simple, clean lines were used – and are echoed in each of the items for easy coordination” (p. 5). The uniforms were showcased in a private directors fashion show in March, 1970 during a public unveiling at Independence National Historic Park Freedom Week in June, 1970 and a regional presentation given to the President and “Ladybird” Johnson (Workman, 1998a).

Photo archives evidence suggested mixed emotions by audience members as represented by facial and body language at the 1970 public unveiling (Figure 1.10). Notably though, trousers were now included in the 1970 uniform as a pantsuit option. The uniform assortment was comprised mostly of dresses, so women were still limited by the uniform functionality, range of duties, and activities they could and were “allowed to do.” While the inclusion of women in the

process of this uniform redesign was a step forward, the power over the ultimate outcome was given to others, namely men, which led to the creation of standards that reinforced gender norms.



**Figure 1.10:** Public unveiling at Independence National Historic Park Freedom Week in June, 1970 (NPSHPC-HFC#70-308-2-3A, NPSHPC-HFC#70-308-2-15A)

“Go-go” boots have received notoriety as well as controversy throughout the NPS history. Marion Riggs (Durham) photograph wearing the 1970 tunic, culottes, and “Go-go” boots was taken at the unveiling at Independence National Historical Park Freedom Week in Philadelphia, Pennsylvania on June 27, 1970 (Figure 1.11). “Go-go” boots as interpreted by NPS uniform researcher, “resembled those worn by exotic dancers of the period” (Workman, 1998a, p. ii). White, low heeled, and mid-calf, this style of boot was first introduced into fashion in the 1960’s. Their evolution into the 1970’s within fashion included knee-high length, with a square toed shoe box, a block heel, and usually made in an array of colors and patterns in materials such as vinyl and plastic.



**Figure 1.11:** Marion Riggs Durham models the new NPS Women's uniform at Independence National Historical Park (HPC#001064)

According to the 1970 Uniform Standard it simply stated boots (as referenced in the NPS Uniform FAQ archive), “should be simple in styling, comfortable and for winter should have warm lining. Again, color should be beige or tan to light brown in the same color family as basic uniform in a smooth or lightly grained leather (not suede or reptile). Work boots should coordinate as nearly as possible.” (*NPS Uniform Collection FAQs*, 2019). Women provided their own shoes based on these general requirements, as uniform suppliers did not provide women a standard shoe or boot. Therefore, it remains open to the possibility, as Marion Riggs (Durham) demonstrated and modeled, that women in the NPS could have worn “Go-go” boots. However, “Go-go” boots were not part of the official NPS uniform nor explicitly cited in the 1970 Uniform Standard.

The uniforms were fashionable and stylish (to some), however women in the NPS criticized functionality and impracticality beyond offices and visitor centers and fieldwork. “The public did not always realize that the women wearing these new uniforms were even in the Park Service. They still envisioned the ranger wearing forest green.” (Workman, 1998a, p. 42).

Furthermore, ranger Mary Bradford recalled the function of the uniform and the hem of her dress melting within the heat in an emergency when she helped fight in a brush fire (Workman, 1998a, p. 42).

Women sought for equality and authority in their uniform. Women were required to wear a hat, and while it resembled the standard (men's) ranger hat, those provided to women were made of lightweight felt. Due to the shape contour and lack of body provided, it did not withstand normal service duties and thus women wore the standard (men's) felt or straw hat (Workman, 1998a, p. 42). In addition to the clothing in the uniform, female NPS rangers sought to have a badge that matched and exuded their authority as a ranger. However, the NPS responded by creating new "badgettes" that resembled a "cute" children's souvenir badge, rather than an emblem of competence and authority. This demanded the resurfacing of women being assigned badges and concurrently a fabric that would support a heavy badge. Contrary to what provided substance to this issue, new "badgettes" were created (and later recalled and removed from park property books) (Workman, 1998a, p. 44).

The 1974 uniform regulation contained changes, that yet again fell short of the needs of women. Internally, women in the NPS described it as the "McDonald's" uniform because it reminded them of what was worn by fast food workers (Workman, 1998a, p. 47) "The new uniform was to still be the "A-line" style of double-knit polyester, although now it was to be dark green" (Workman, 1998a, p. 47)(Figure 1.12).



**Figure 1.12:** Women’s 1974 uniforms (NPSART-Gilbert B. Cohen, artist HFC/ARM#GR-000211 thru 14)

### *Visual Communication: Insignia*

Today the NPS resides under the Department of the Interior and the Forest Service under the Department of Agriculture. In the early years all rangers were called forest rangers whether they worked in the parks or the forest reserves (Workman, 1994, p. 7). According to Workman, “All were employed by the Interior Department and did more or less the same job, they more than likely were all issued this same badge.” (1994, p. 7). In 1905 however, Congress transferred the forest reserves from the Department of the Interior to the Department of Agriculture (Workman, 1994, p. 8). As Workman describes “the park rangers still thought of themselves as forest rangers for some time thereafter” (1994, p. 8).

Badges contributed to a sense of identity for rangers, especially in the early years; however, they were also all that identified rangers (Workman, 1994, p. ix). Various articles of adornment were also used to signify and identify throughout the NPS history as well (1994). Mostly up until in 1928, various design methods, shapes, and materials selected of high or superior quality were used. Examples include serge worn by officers instead of wool, and gold

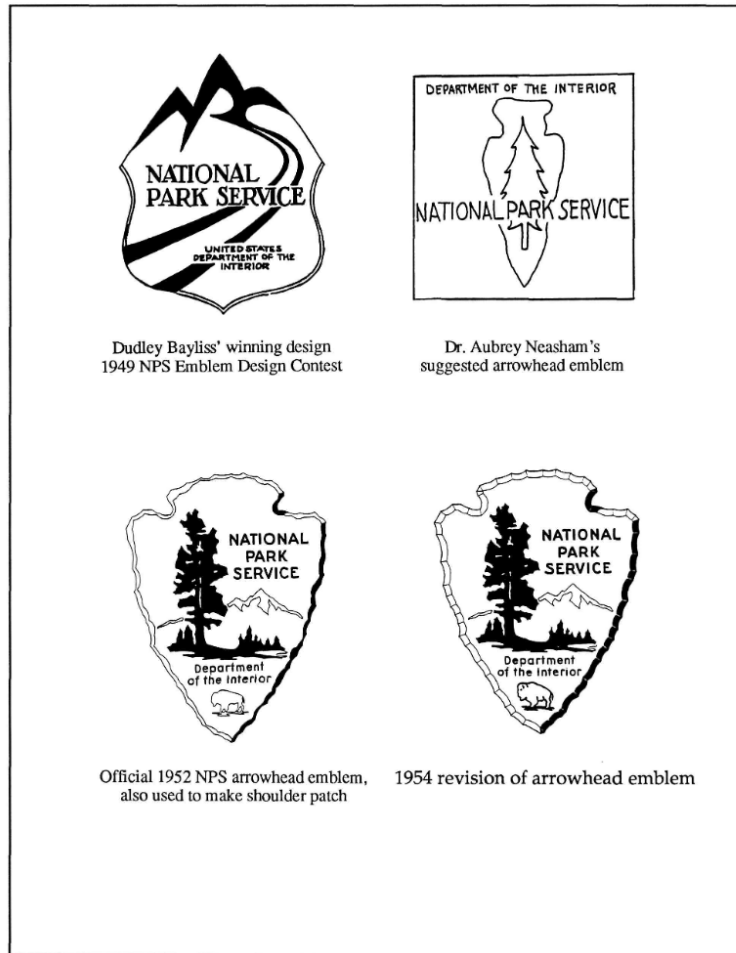
fill instead of nickel plate or German silver. Patches (referred to as “brassards”), were also used to distinguish positions.

The NPS “wanted a uniform and all of the trappings that would let the world know who they were” (Workman, 1991, p. 25). Insignia elements contributed to what we know of the NPS uniform today like the arrowhead, belt, buttons, hat, hatband and straps, and name tags.

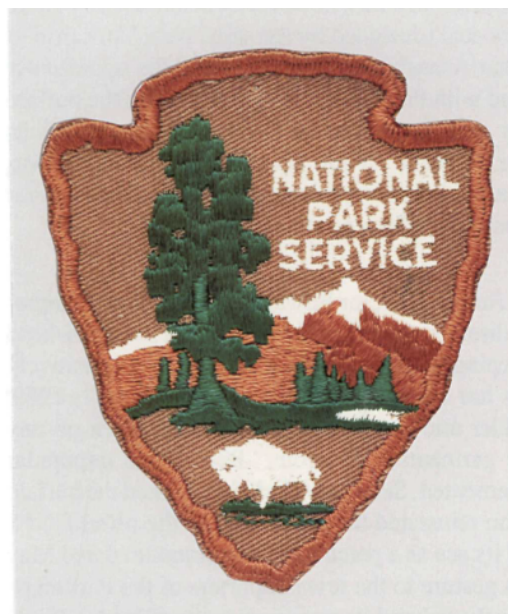
Historically and leading up to this, cap insignia, collar ornaments, service insignia, sleeve brassards, tie ornaments and pins were also used to distinguish.

The arrowhead (see Figure 1.13) was authorized as the official National Park Service emblem by the Secretary of the Interior on July 20, 1951 and then amendment No. 12, September 2, 1952, to the 1947 uniform regulations prescribed the arrowhead as a patch for the uniform (see Figure 1.14). Noteworthy of the NPS arrowhead patch evolution was its’ second iteration by historian Dr. Aubrey Neasham. It was suggested the emblem should be depicted “like an arrowhead, or a tree or a buffalo” (Workman, 1991, p. 25-26). The final addition, of the 1961 uniform regulations was a 1-1/2” wide cordovan leather belt, also the standard belt in use today. On March 7, 1962 the arrowhead was the official symbol of the National Park Service.





**Figure 1.13:** The NPS arrowhead patch evolution (Workman, 1991, p. 29)



**Figure 1.14:** The NPS arrowhead patch 1952-present (Workman, 1991, p. 28)

The progression of button design styles demonstrated elements of distinguishing itself with (and later apart from) the Forest Service agency and U.S Army. The earliest (1909-1911) bronze Forest Service button was used on ranger uniforms in Sequoia National Park. The 1911 first officially authorized uniform used a bronze U.S. Army button. In 1912 the eagle design surrounded by the words “National Park Service, Department of the Interior” was ordered for all uniforms and this insignia design in an oxidized Bronze remains the oldest piece of insignia still in use today (Workman, 1991, p. 42). In these early years, rangers were responsible for furnishing their own uniforms (often from different manufacturers), however the department provided these buttons without charge (Workman, 1991, p. 34-37). After the button, the second oldest piece of insignia still in use today is the [metal] collar ornament (Workman, 1991, p. 42). According to Workman (1991), “In late 1917 or early 1918, Service headquarters started requiring ‘N.P.S.’ to be stitched on the collar of the uniform in bronze thread, to match the buttons” (p. 42). This was replaced by the metal “USNPS” in the 1920 regulations.

The first hats worn by rangers in the Park Service were Stetsons, similar to those worn in the Army. “These were usually creased fore and aft, but there were no regulations on the subject and it was left to the ranger to do whatever styling he wished” (Workman, 1991, p. 49). When the first “authorized” uniforms were ordered in 1911, they included a felt camping hat after the Stetson style (p. 49). “With the ordering of uniforms in 1912, though, an ‘Alpine’ style hat was specified. From the drawing submitted by Sigmund Eisner, it would appear that this was the forerunner of the current stiff-brimmed hat” (p. 49). “They show a hat similar to what the rangers wear now, except for a higher “Montana” peak.” (p. 49). “The hat was first formally specified in the 1920 uniform regulations. They stated that it would be “Stetson, either stiff or cardboard brim, ‘belly’ color” (p. 49).

Excerpted from the Uniform regulations issued in November 1959:

“...The average life expectancy of a felt hat is three years. It should be worn at a slight angle to the right side and not tilted forward over the eyes or worn on the back of the head. The cloth hat band that comes with new hat should be removed and never should be worn under the uniform leather hat band.”

According to Workman, the straw hat was inaugurated in 1959 (1991, p. 51). Its specifications include:

“Style— "National Park Service" ventilated milan braid material, Belgium Belly color, crown specifications same as for the felt hat. Stiff brim, flat set, average width 3-1/4", marine service curl, leather sweatband and hat [sic]. Indentations in crown, same as for the felt hat.”

### ***NPS Uniform Organizational Structure***

The NPS outlines uniform classes and components to delineate uniforms according to some (while not all) of their job functions (*Reference Manual 43 Uniforms*, 2000). The main class components include winter and summer uniform options (Table 1.2; also see Figure 3.1).

<i>Service Uniform</i>	Public contact positions (standard uniform)
<i>Field Uniform</i>	Public contact positions where environmental conditions dictate a more practical uniform
<i>Work Uniform</i>	Work projects, backcountry use

**Table 1.2:** NPS main uniform types

The organizational structure holds several divisional areas including (while also not limited to) administration, interpretation, maintenance, and resource management. Unique to the NPS is the expansively vast specializations within the agency itself like law enforcement, fire operations, and ski operations. The robust range of work duties in combination with factors like climatic season or divisional area make such delineations challenging and to a certain degree quite ambiguous. Do increased uniform delineations help to identify pertinent distinctions or take away from the agency’s identity at large?

The Field uniform is worn by employees engaged in visitor contact activities in situations where the Service Uniform would otherwise be impractical or inappropriate due to climate, terrain, or safety. The occasions for wear include routine, daily activities involved in a high degree of public contact or supervision of employees in public contact in which the wearer is subject to adverse environmental conditions. Examples cited in the reference manual include: outdoor activities in foul weather; interpretive walks on unsurfaced trails; front country patrols in mixed environments (e.g., roads, trails, open ground and boat patrols using hard-hulled craft); horse patrols or resource management activities in areas highly visible to the public).

The Service uniform is worn by employees in public contact positions and also worn by management employees such as superintendents, division chiefs, and supervisors. Unique to the Service Uniform is that general rules include the ranger hat be worn whenever possible and seam creases must be apparent in uniform pants. The tropical service short-sleeve shirts are preferred in this category (over the poplin shirt option). The Service uniform also contains Skirts and “Female, Low Heel Pump” options. Occasions for wear include routine, daily activities involved in a high degree of public contact or supervision of employees in public contact. Examples cited in the reference manual include: operation of visitor centers, campgrounds, entrance stations, and other visitor facilities; presentation of interpretive programs; and front country patrol by foot, vehicle, or horse.

The Work uniform is worn by employees engaged in daily or planned, not incidental work project and backcountry operations warranted by environmental and working conditions. This typically included duties that have little or no public contact potential. Occasions for wear include routine, low visitor contact work and patrol activities. These are authorized for employees engaged primarily performing resource management work of a maintenance nature.

Examples include wilderness, backcountry, boundary, ski and boat patrols, overnight-guided hikes.

### ***NPS Identity: Uniforms***

What emerged from 1999 National Park Foundation conducted focus groups affected the identity of the NPS, ultimately shedding light on the importance of the NPS uniform. These findings are relevant as we consider the research questions, specifically RQ2. While the focus group was part of an effort to market a National Park pass aimed to cover the entrance fees, the findings were relevant to this research. Data collected showed continued high approval of the National Park Service among the public, yet public understanding was low (Musselwhite, 2009). Data collection partner Ogilvy Public Relations suggested a number of ways to address this issue, a primary recommendation was to create design standards to set forth a clearer, stronger, and more distinctive graphic identity for the agency (Musselwhite, 2009).

In Spring 2000, the NPS assigned Dennis|Konetzka|Design Group (DKDG) to address this (Musselwhite, 2009). Tasked with a public client, DKDG aimed to address and understand what the project needed and identified the NPS as a conservative organization aimed on building upon design traditions that had emerged within the NPS' 100-year history (Musselwhite, 2009).

According to Musselwhite:

Although never codified or consciously managed, the distinctive NPS public image emanated primarily from three visual components: its park rangers' attire, its architecture, and its distinctive arrowhead logo.

National Park rangers are well known for their flat-brimmed hats. But the hat is not what sets them apart visually. (The same style is worn by Royal Canadian Mounted Police and many state troopers, and even Smokey Bear.) The most distinctive aspect of the NPS uniform is its gray and green color, introduced with the Uniform Regulations of 1920. Little has changed since then. Rangers now wear shoes, trousers, and skirts instead of boots and breeches, but the uniform remains a recognizable public symbol of the agency.

The most recognizable NPS graphic symbol is its Arrowhead logo, which—along with the ranger uniform—is the principle means by which the NPS is identified by the public.

This chapter reviewed key areas of literature in fashion studies, the social psychology of dress, and the history, organizational structure, and identity of the NPS uniform. The tension between fashion and function played out on the uniformed bodies of NPS women rangers in the 1960s and 1970s. Ultimately, the uniforms perpetuated a variety of different fashion elements from these periods which included the stewardess uniforms, skirt and dress silhouettes, and form-fitting garments. While this tension is not surprising given the larger struggle for women's rights and equality in American society at the time, this history must be understood and reckoned with as we consider how the NPS can meet the needs of women in their ranks going forward.

### ***Research Questions***

RQ1: Historically, how were elements of fashion adopted and/or perpetuated through the NPS uniform?

RQ2: What kinds of identities are produced through the NPS uniform and how are they construed or conveyed through the employees who wear them?

RQ3: How do the NPS uniforms meet (or not) the needs of the wearer in their various duties and activities?

RQ4: How do their current textiles and subsequent apparel designs and finishings meet the demands of their profession?

RQ5: What do NPS employees feel that they express through their uniform?

### **Chapter 3: Research Questions and Methodology Overview**

This research used a mixed-method approach including qualitative and quantitative (Sommer & Sommer, 1997); (Kerlinger & Lee, 2000), object based (Mida & Kim, 2015), and ethnographic data (Jenss, 2016) collection measures to achieve the research aims. To facilitate answering the research questions, the contextual perspective of dress (Kaiser, 1997) was adopted and applied in various and different capacities within the research methods including its' three components of (1) a cognitive perspective, (2) a symbolic-interaction perspective, and (3) a cultural/historical perspective. Specifically, the research survey was structured to current and former NPS employees<sup>2</sup>, across all genders, and NPS units<sup>3</sup>.

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<sup>2</sup> Each year more than 250,000 people join the NPS as volunteers (NPS.gov). This research did not dis-include park volunteers, however the sample is not representative of any participants who identified as such. I engaged and interacted with volunteer staff during field site visits.

<sup>3</sup> The National Park Service manages 419 individual units covering more than 85 million acres in all 50 states, the District of Columbia, and US territories (NPS.gov).

## **Chapter 4: Study 1 - Archival Object-based Analysis**

### ***Method: Archival Object-based Analysis***

Study 1 was conducted to address RQ1 and RQ2, through object-based analysis at the NPS Uniform History Archives Collection in Charles Town, West Virginia. The Uniform Collection is part of the larger NPS History Collection at Harpers Ferry Center (HFC), West Virginia. The RQ1 asked: Historically, how were elements of fashion adopted and/or perpetuated through the NPS uniform? The RQ2 asked: What kinds of identities are produced through the NPS uniform and how are they construed or conveyed through the employees who wear them? Literature by Ingrid Mida and Alexandra Kim (2015) was reviewed and included a checklist for observation and reflection for this method (p. 216-221). This contained general garment information, construction, textile details, sensory reactions, personal reactions, and contextual information.

The uniform collection contains women's uniforms, men's uniforms, badges and insignia, special uniforms and protective gear. I examined thirty-three women's uniform garments in total, represented in 1961, 1962, 1970, and 1974. This mainly included skirts, blouses, jackets, tunics, and dresses.

Slight appearance differentiated the 1961 and 1962 women's uniforms, and the reason for the uniform change is not known according to archival records. The main differences between these uniforms I observed included jacket collar construction, number of buttons, pocket detailing, skirt styling, hat design construction, and badge tabs (or lack thereof). However slight these changes may appear, they both exude elements where fashion was prevalent and warranted an object-analysis examination.



I participated on a conversational tour with the curator and received an overview of the uniform collection which dates from 1920 – present. The curator is a museum professional within the NPS and has worked on numerous cultural resource initiatives for the park service. Objects were previewed in the storage collection room, transferred into the work room, removed from boxes and packing, analysis photographed, and finally re-packed and boxed or placed back on the hanger. Due to time and number of garments needed to be viewed during the visit, only key garment characteristics were notated in a field journal during analysis.

First, a uniform set of 1961 was examined (see Figure 1.6 above) which included a skirt, jacket, and hat viewed within a sliding drawer in the archive storage room. Second, the 1962 skirts were analyzed according to pattern specification elements of “Delta Uniform #A-703”<sup>4</sup> (see Figure 1.8 above). Third, the 1962 blouses were analyzed which mainly included an examination of the material, manufacturer labels, button placement, and arrowhead emblem patch. Fourth, 1962 jackets were examined. Fifth, 1970 dresses, tunics, and culottes. Finally, 1974 jackets and 1974 tunics were examined.

### ***Results: Archival Object-based Analysis***

In total, thirty-three garments were reviewed and one hat across the 1960s and 1970s women’s uniforms (see Table 2.1). A myriad of manufactures was observed across all garments. Further, eight garments did not contain a manufacturer label, was removed, or otherwise not legible.

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<sup>4</sup> This included straight (no flare) skirt shape, three gores - single gore front and two gores in back with double inverted 8” pleat, five belt loops, three vertical (1 rear, 2 front) and two “keystone” shaped ones at the sides. Buttons to be of matching color (or its equal). Zipper placket 7” long on left side of skirt. Skirt to be at least 1 ½” to 2” below the knee. Pocket-slash type, self piped, opening 3 ¾” wide with diamond tack of matching silk thread at either end of opening. Pocket was on the right side of skirt with opening on a slant, 1-3/4” from waistband in front to 4” from waistband at rear.

**1961.** First, a 1961 uniform set which included a jacket and skirt was examined (HFCA-122) (Figure 2.1). The jacket contained four buttons and the small arrowhead patch on the left shoulder (men's arrowhead patch was larger). The interior manufacturer label read "Terrytowne, B.B. McGinnis Co. Merced, California." The jacket and skirt contained a label name section with lines to write the wearers name, however the labels were intended for men as "Mr" was used, even though the garments were designed for women. The kick pleat was not measured, but visually it appeared to be close to the 10" that was specified in the uniform handbook<sup>5</sup>. One hat worn with this uniform set was examined and included the embroidered "USNPS," modeled after airline stewardesses.



**Figure 2.1:** A 1961 Uniform Set (HFCA-122).

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<sup>5</sup> Measurements were not taken due to where the uniform needed to be viewed in a storage drawer.

YEAR	OBJECT	ACC#	MANUFACTURER	ACWA LABEL	SPECIFICATION LABEL
1961	JACKET (SET)	HFCA-122	Terrytowne, B.B. McGinnis Co. (Merced, California )		
1961	SKIRT (SET)	HFCA-122	Terrytowne, B.B. McGinnis Co. (Merced, California )		
1961	HAT	N/A	N/A		
1962	SKIRT	HFCA-00697-135	Fechheimer (Cincinatti, Ohio)		X
1962	SKIRT	HFCA-00697-155	Heishnam		
1962	SKIRT	HFCA-00697-138	No identifiable manufacturer		
1962	SKIRT	HFCA-00697-792	Gregory's (Greeley, Colorado)	X	
1962	SKIRT	HFCA-00697-795	Alvord & Ferguson		
1962	SKIRT	HFCA-00697-139	Alvord & Ferguson		
1962	SKIRT	HFCA-00697-137	Fechheimer (Cincinatti, Ohio)		X
1962	SKIRT	HFCA-01173-1299a	Gregory's (Greeley, Colorado)		
1962	SKIRT	HFCA-00452-150A	Gregory's (Greeley, Colorado)	X	
1962	SKIRT	HFCA-00697-794	No identifiable manufacturer		
1962	SKIRT	HFCA-00697-154	Fechheimer (Cincinatti, Ohio)		X
1962	BLOUSE	HFCA-00452-149	No identifiable manufacturer		
1962	BLOUSE	HFCA-00697-118	No identifiable manufacturer		
1962	BLOUSE	HFCA-00697-120	No identifiable manufacturer		
1962	BLOUSE	HFCA-00697-119	WORLD FAMOUS GRAFF CALIFORNIAWEAR		
1962	BLOUSE	HFCA-1173-1296	Remnants of red and white label (perhaps GRAFF)		
1962	JACKET	HFCA-00697-144	Gregory's (Greeley, Colorado)	X	
1962	JACKET	HFCA-1136-1207	Gregory's (Greeley, Colorado)	X	
1961	JACKET	HFCA-00520-146	Gregory's (Greeley, Colorado)	X	
1962	JACKET	HFCA-00952-147	G.&G.Co.,Inc., 915 E ST. N.W, WASHINGTON, D.C	X	
1970	TUNIC	HFCA-00697-159	Fashionaire a division of Hart Schaffner & Mary		
1970	CULOTTE	HFCA-1173-1305	Fashionaire a division of Hart Schaffner & Mary		
1970	ZIP-UP SMOCK	HFCA-00710-129	Fashionaire a division of Hart Schaffner & Mary		
1970	DRESS	HFCA-1304	Fashionaire a division of Hart Schaffner & Mary		
1970	POP-ON	HFCA-571	Fashionaire a division of Hart Schaffner & Mary		
1974	JACKET	HFCA-1136-1180	No identifiable manufacturer		
1974	JACKET	HFCA-1136-1181	Gregory's (Greeley, Colorado)	X	
1974	CLASS A CARDIGAN JACKET	HFCA-123	Fashion World		
1974	TUNIC	HFCA-00697-157	Fashion World		
1974	TUNIC	HFCA-935	Fashion World		
1974	TUNIC	HFCA-1019A	No Manufact. Information (perhaps homemade)		

**Table 2.1:** Summary list of archival object-based analysis items

**1962.** Next, the 1962 uniform was examined which included skirts, blouses, and jackets (Figure 2.2).



**Figure 2.2:** 1962 uniform (photo taken from NPS archive collection).

The 1962 skirts were examined ( $n=11$ ) and contained a multitude of design and construction differences, in part from the myriad of manufacturers located in different regions of America. While no two skirts appeared completely identical, common themes and garment characteristics emerged by manufacturer origin.

Skirts by Fechheimer (Cincinnati, Ohio) contained a waistband interior label ( $n=3$ ) that the garment is guaranteed to conform to NPS specifications (Figure 2.3). However, garments would not have met all specifications due to elements like the overall skirt length (HFCA-00697-135), kickpleat length (HFCA-00697-137), and irregular belt loops (HFCA-00697-154).



**Figure 2.3:** A 1962 skirt waistband specifications label (HFCA-00697-154).

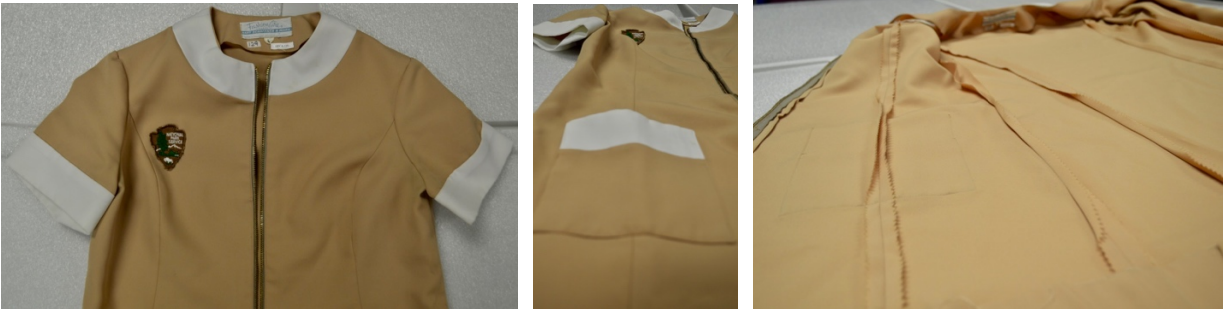
Skirts by Gregory's (Greeley, Colorado) contained consistent angled slash pockets ( $n=3$ ). Skirts by Alvord & Ferguson (Merced, California) did not contain an elasticized waistband ( $n=2$ ).

Next, the 1962 blouses were examined. Garments were a white lightweight material and appeared rather transparent or almost "see-through." Explicit sizing information on all blouses was not located. Most ( $n=4$ ) opened left to right, and one blouse (HFCA-00697-118) opened right to left. Two blouses (HFCA-00697-119 and HFCA-1173-1296) contained remnants of a manufacturer label which included "WORLD FAMOUS GRAFF CALIFORNIAWEAR." There were visible markings on one blouse collar of (HFCA-00452-149) which would have indicated where the "USNPS" emblem pin would have been. The uniform handbook also stated the emblem pin could have been worn on the collar or blouse though. Significant to the garment as a whole was the arrowhead emblem patch on the left sleeve which measured  $2\frac{1}{2}$ ", consistent with the reduced size for women (at the time).

The 1962 uniform jacket and skirt were based off a "airline hostess type." All ( $n=4$ ) of the 1962 jackets I examined contained the Amalgamated Clothing Workers of America (ACWA) union label. There were some differences between the jackets such as different labels represented with a shared manufacturer and one jacket (HFCA-00697) which contained sweat pads at the armpit. The arrowhead emblem patch on jacket measured  $3\frac{3}{4}$ ."

**1970.** Of the 1970 uniforms, five garments were examined, and all manufactured by Fashionaire a division of Hart Schaffner & Mary. The garments included a tunic (HFCA-00697), culottes

(HFCA-1173), zip-up smock (HFCA-00710), A-line dress (HFCA-1304), and a sleeveless pop-on (HFCA-571). The interior construction of garments contained notches and sheared seam allowance, which could suggest they were not mass produced. The tunic contained visible seam allowances and sewing notches. The zip-up smock also contained visible (sheared) seam allowances (Figure 2.4).



**Figure 2.4:** Design and construction details of the 1970 Zip-up smock (HFCA-00710).

**1974.** Of the 1974 uniforms, six garments were examined and included jackets ( $n=2$ ), a class A cardigan jacket, and tunics ( $n=3$ ). The first jacket (HFCA-1136-1181) was manufactured by Gregory's (Greeley, Colorado) and the other jacket did not contain a label (HFCA-1136-1180). On the jackets, there were only slim interior pockets and no exterior pockets. Next, the class A cardigan jacket (HFCA-123) was examined. This shared the same hand and material as the tunics, a double-knit polyester manufactured by Fashion World. Finally, the tunics were examined ( $n=3$ ). Pronounced collars were observed (HFCA-00697-157, HFCA-935) and measured 5" at their widest (Figure 2.5). The final tunic (HFCA- 1019A) contained several design and constructions differences from the previous examined. There was no manufacturer label, color was a light shade of green, the hand and texture was different, a non-tonal zipper tape was used, the pocket construction used exterior stitching, and corner pockets were not reinforced with a few frayed threads. Further, the tunic contained a men's patch which does not have white embroidery around the outside as the women's patch did.



**Figure 2.5:** A 1974 tunic top contained design details with a pronounced collar and measured 5” (HFCA-00697-157).

**ACWA.** Out of 33 garments, seven union labels were found and identified from the Amalgamated Clothing Workers of America (ACWA). These were from manufacturers “Gregory’s” in Greeley, Colorado ( $n = 6$ ) and “G.&G.Co.,Inc.,” Washington, D.C ( $n = 1$ ). Six (of seven) ACWA contained a circled R trademark symbol in the left corner of the tag which suggested it was sewn in the years of 1962-1976 (see Appendix 1)(The Steel Zipper, n.d.). Only one of the 7 was missing the trademark symbol, a 1962 skirt (HFCA-00452-150A), which is consistent with the 1949-1962 ACWA labels of the period (The Steel Zipper, n.d.). Additionally, one label (HFCA-00697-144), a 1962 pattern green women’s uniform jacket, contained red numbering on the left of tag while the remainder were black numbering on the left of tag (see Appendix 1).

### ***Results Summary: RQ1 and RQ2***

**RQ1: Historically, how were elements of fashion adopted and/or perpetuated through the NPS uniform?** The adoption of various fashion elements were observed in the uniforms.

Examination of the Delta #A-703 stewardess pattern used on the 1961 and 1962 examined and revealed how silhouette was a critical factor to the overall design and aesthetic of the uniform.

The garment specifications delineated in the NPS uniform manual were found to be produced by a myriad of manufacturers. This was most widely represented within the 1962 skirts and the

different interpretations of skirt length, kick pleat length (or one at all), button color, waistband construction, variations of belt loops, thread color, pocket reinforcement, back center-seam diamond tack, and multiple styles of angled slash pockets and diamond tack reinforcements. Secondly, the 1970 uniforms examined in the object analysis were represented in the private directors NPS fashion show. Finally, the 1974 uniform contained accentuated collars.

**RQ2: What kinds of identities are produced through the NPS uniform and how are they construed or conveyed through the employees who wear them?** Visual markers embodied on the 1961 and 1962 uniform held inequalities of gender and authority. The adoption of airline stewardess patterns and styling such as skirt only options and white blouses meant there were limitations to what women could do and the roles they could serve in. As referenced by Boris (2006), airlines historically advertised and recruited stewards and flight attendants for specific characteristic factors which included height, weight, age, and health (p. 132-138). Today's workplace standards would arguably constitute such hiring practices as unethical and discriminatory. In essence, airline stewards' bodies and regulation of their bodies was prioritized. This notion perpetuated ideal body identities for women during this time. Whether intentionally or inadvertently, the NPS adopted this material culture into and on to the dressed uniformed bodies of the 1960s. Further, presence of the ACWA union labels emanated the manufacturing and labor processes involved in making these garments.



## **Chapter 5: Study 2 - Fit Satisfaction**

### ***Method: Survey Structure***

Study 2 was conducted using a fit satisfaction survey and follow-up interviews to address RQ3 and RQ4. The RQ3 asked: How do the NPS uniforms meet (or not) the needs of the wearer in their various duties and activities? The RQ4 asked: How do their current textiles and subsequent apparel designs and finishings meet the demands of their profession? These RQ's were selected to better understand how the uniform functions for park rangers.

A uniform fit satisfaction survey consisted of 24 questions (Appendix 3). This included open-ended response ( $n=6$ ), close-ended response ( $n=7$ ), multi-answer ( $n=2$ ), fill in ( $n=6$ ), and Likert-type five point scale ( $n=3$ ) questions. The survey was administered to 40 research participants using Qualtrics online software. Participants were recruited through snowball sampling. Within the body of the email access to the survey link was provided, and also stated participants were encouraged to share the questionnaire among their ranger cohort network. The survey explores uniform satisfaction by asking 24 questions. In addition, the survey includes items about demographics, employment history, uniform information, and supplemental information, environmental conditions which include the physical and natural, garment performance property satisfaction, job duty x uniform satisfaction, body location x uniform satisfaction, and supplemental information.



**Figure 3.1:** NPS Uniform Guidelines

Early in my research development process, I was introduced to a Cornell student who was also a former NPS park ranger. The individual provided preliminary feedback of the survey draft, which ensured the survey language and garment terminology was consistent and would be understood in the NPS. An exemption from the Institutional Review Board was approved for the research (Appendix 1).

The online survey asked participants if they were interested in participating in an optional follow-up interview. Five follow-up in depth interviews were conducted and all participants were women. Interviews ranged in time but averaged approximately thirty minutes and were dependent upon their schedule and obligations. Interviews were recorded and used NVivo 12

plus for transcription analysis. The follow-up interviews method informed fit satisfaction (as well as ethnographical data collection discussed in Study 3).

## Participants

Next, descriptive statistics will be presented regarding a summary of participants demographics, at which parks participants were employed, what uniform types they wore, and the roles they serve in. The survey was completed from August – October 2019 by a total of 40 participants. The majority (40%) was within the ages of 25-34 ( $n = 16$ ) with a standard deviation of 1.36. The sample of participants was overwhelmingly (93%) White/Caucasian ( $n = 37$ ) and most of the participants were (68%) female ( $n = 27$ ) (Figure 3.2).

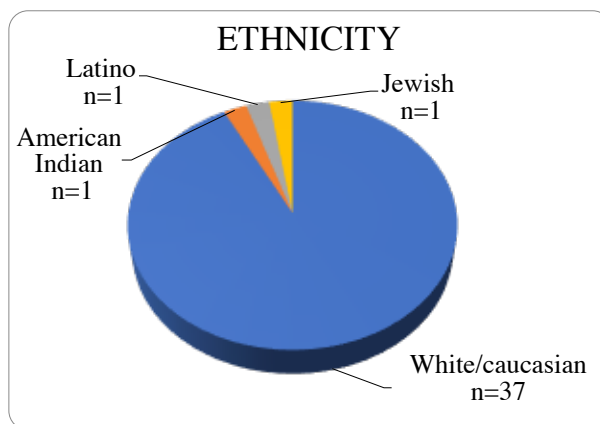


Figure 3.2a

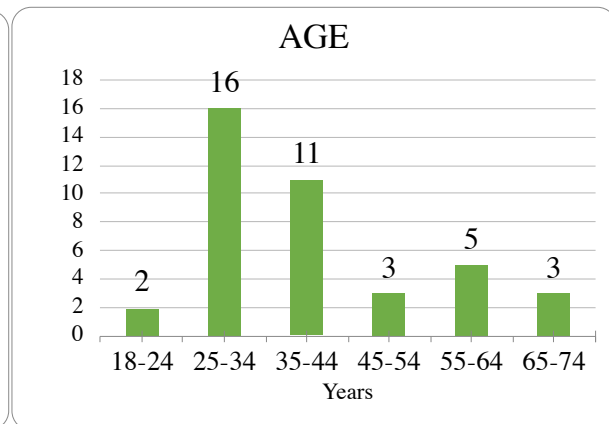


Figure 3.2b

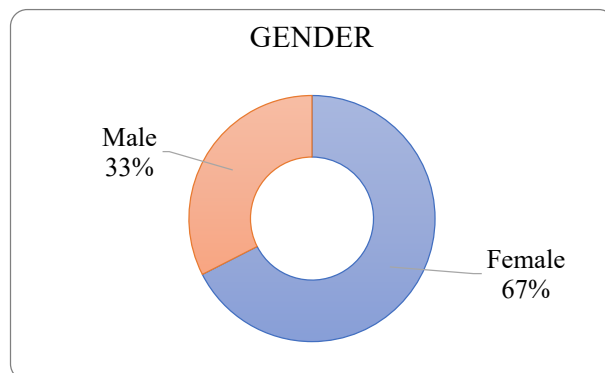
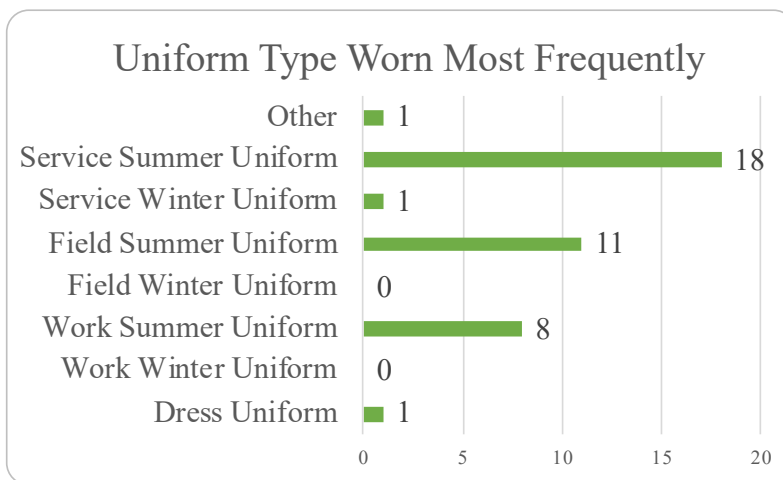


Figure 3.2c

**Figure 3.2a-c:** Survey results demographical profile of sample

The majority of the sample was currently/most previously worked at two National Park System Units, including Yosemite National Park and Cape Cod National Seashore. The additional National Park System Units included: Boston Harbor Islands National Park, Channel Islands National Park, Hawai‘i Volcanoes National Park, and Stones River National Battlefield.

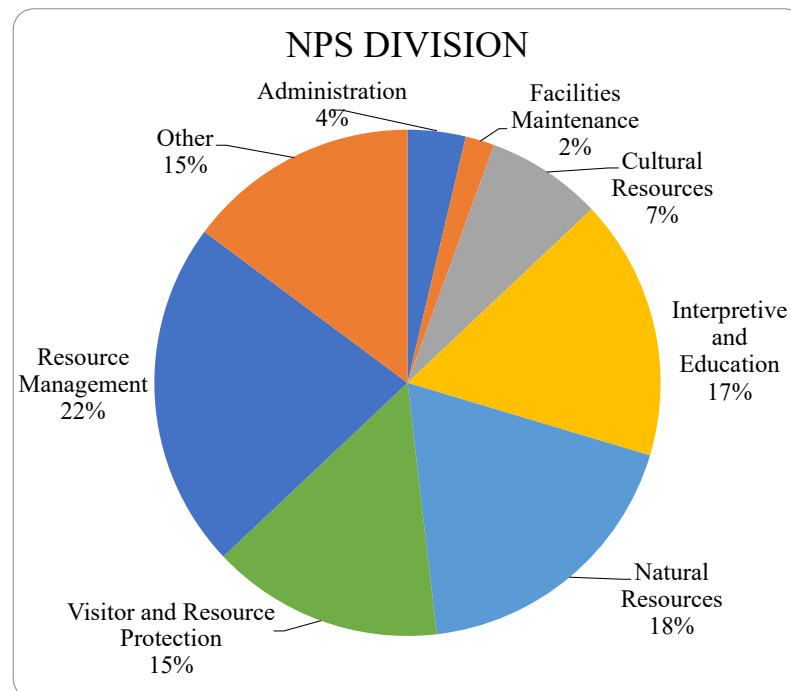
Uniform types worn most frequently included the Service Summer Uniform ( $n=18$ ), Field Summer Uniform ( $n=11$ ), and the Work Summer Uniform ( $n=8$ ) (Figure 3.3). Participants optional response to list garments not represented in the visual aid included the pullover sweater, lightweight shirt, gray t-shirt, the new BDU ripstop pants, and Patagonia Capilene shirts. Over half of survey participants ( $n=24$ ) did not utilize the ‘How to Measure’ instructions provided in the NPS ordering catalog and most frequently cited trial and error ( $n=11$ ) to determine size. Cited less frequently was coworker input and discussion, the NPS uniform cache, and other clothes/general sizing.



**Figure 3.3:** Uniform type worn most frequently/most often among sample

The top divisional roles represented among the sample included Resource management ( $n=12$ ), Natural Resources ( $n=10$ ), and Interpretation and Education ( $n=9$ ) (Figure 3.4). Some ( $n=11$ ) selected more than one division. Divisional roles not listed within the survey but were cited included Business/Business and Revenue Management/Fees as well as Visitor Use/Visitor

Assistant. The work categories within each division were overall mixed with Visitor Information ( $n = 12$ ), Park Guide Interpretation ( $n = 11$ ), and Biologist ( $n = 11$ ); several participants ( $n = 21$ ) who selected more than one work category.



**Figure 3.4:** NPS Divisional categories among sample

### Construct and Measures

**Demographics.** Participants were asked to provide demographic data. These questions included providing their age range and open-ended response to gender and ethnicity.

**Employment History.** Participants were asked to specify their most recent/current NPS unit and employment. This included open-ended response and fill-in dates of hire. Participants were explicitly asked if their job required wearing a uniform through a Yes/No question. Next, participants selected which categories and divisions they worked in within the NPS, and the option of selecting 'other' and filling in their response was provided.

**Uniform Information.** A uniform guidelines visual aid of seven categories (Figure 3.1) and measurement instructions from the NPS catalog was provided. Participants were asked to

select one uniform classification they wear most frequently/often and if they had referenced the 'How to Measure' instructions from the NPS catalog through a Yes/No question.

**Environmental Conditions.** While various uniforms share some common characteristics, how the uniform performs or operates in relation to the built and natural environment can vary due to factors like ergonomics, movements, climate, and conditions. Built environment refers to man-made structures such as offices, visitor centers, or entrance stations. Natural environment refers to climate conditions and types of outdoors spaces like campgrounds, trails, or rivers. These factors can vary drastically (day to day) based on the job duty or weather. To better understand these issues, participants were asked to describe their built and natural environments through an open-ended question.

**Performance Property Satisfaction.** Based off participants environmental conditions descriptions, they were asked to rate their uniform satisfaction based off each of the following eight sub-theme performance properties: protection, mobility, comfort, moisture wicking, thermal heat retention, ultraviolet ray blocking, waterproof, and flame retardancy (Watkins & Dunne, 2015). Responses to each performance property were indicated using a 5 point Likert scale (1=very dissatisfied to 5=very satisfied). This was averaged to yield a mean performance property satisfaction of  $\bar{x}=2.49$  and indicated in Table 3.1.

**Job Duty Satisfaction.** Participants were asked what their top three job duties were in an open-ended question. Next, participants were asked to rate their satisfaction with the uniform based of these job duties using a 5 point Likert scale (1=very dissatisfied – 5=very satisfied). This was averaged to yield a mean job duty satisfaction of  $\bar{x}=2.44$ .

**Body Location Satisfaction.** Based on the job duties previously asked, participants rated their satisfaction by body/garment locations. This included the following areas: neck, chest/bust,

waist, hips, inseam, and sleeve. Responses to each body location were indicated using a 5 point Likert scale (1=very dissatisfied to 5=very satisfied). This was averaged to yield a mean body location satisfaction of  $\bar{x}=2.89$ .

**Supplemental Information.** Participants were asked about the fit and function of the NPS ranger hat. This included an optional open-ended response. Finally, participants could provide any additional comments and were asked if they would be willing to be contacted for future studies.

**Follow-up Interview:** Follow-up interviews provided participants the opportunity to provide any additional feedback or comments from the survey and discuss fit more broadly.

## ***Results***

Select built environment descriptions from survey and interviews participants included a “climate controlled visitor center” and “a converted garage that is now an office space shared with other field employees.” Select Natural Environment Descriptors from survey and interviews participants included “warm, often misty/rainy, volcanic trails”. One participant described how their role is integrated with the climate variation of their natural environment:

“... I work in all environments. I have been on the beach on hot humid days and been running around in the pouring rain as tornadoes and hurricanes approached. It just depends on the day.”

Information about participants’ built and natural environments, enabled a more thorough understanding of factors that affected, influenced, or even detracted from their uniform satisfaction.

Across all uniforms, protection recorded the highest satisfaction ( $\bar{x}=3.06$ ,  $SD=1.08$ ) while moisture wicking recorded the lowest satisfaction ( $\bar{x}=1.79$ ,  $SD=1.02$ ). Within uniform types, the

Service Summer uniform on average rated higher overall satisfaction ( $\bar{x}$ =2.64, SD=1.03) than the Work Summer uniform ( $\bar{x}$ =2.35, SD=0.93) and Field Summer uniform ( $\bar{x}$ =2.13, SD=1.00).

According to the survey results, concerns around fit were consistently expressed, especially by women. The alignment of design with functionality and job task was also mentioned. Research participants brought up concerns about health and aesthetics alike.

Participant job duty responses were coded into 22 sub-categories of similar job duties/movements with office/clerical ( $\bar{x}$ =2.84,  $n$ =25), fieldwork ( $\bar{x}$ =2.50,  $n$ =20), and surveying/vegetation ( $\bar{x}$ =2.00,  $n$ =16) cited most frequently. Among least satisfied body/garment locations were waist (1 - least satisfied=14 participants) and hips (1 - least satisfied=16 participants).

Participants stated flaws in the flat brimmed hat and the level of breathability it provided which caused discomfort in warmer temperatures. Some participants cited the inner band as causing pain and even headaches while wearing for prolonged periods. Additionally, participants stated its practicality within the field was very low. Within interviews however, every participant showed extremely positive reaction when asked what it was like wearing the iconic flat brimmed hat for the first time.

The majority ( $n$  =37) of participant feedback collected were summer uniform types<sup>6</sup> and included the Service Summer uniform, Field Summer uniform, and the Work Summer uniform (see visual reference Figure 3.1) and results are summarized below (Table 3.1 and Table 3.2). Areas participants rated least satisfied include waist ( $\bar{x}$ =2.25, SD=1.23), inseam ( $\bar{x}$ =2.64, SD=1.23), and hips ( $\bar{x}$ =2.71, SD=1.27). On average, women across Field, Service, and Work summer uniforms had higher dissatisfaction than men in these areas.

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<sup>6</sup> The major difference between Summer and Winter garment uniforms included sleeve length and ounce weight (*Director's Order and Reference Manual 43 (RM-43)*, n.d., p. 12-13).



Uniform Type	Protection	Mobility	Comfort	Moisture-Wicking	Thermal Heat Retention	UV Ray Blocking	Waterproof	Flame Retardancy	Average x Uniform Type	No.
Field Summer	2.64	2.00	1.82	1.55	2.73	2.40	1.91	2.00	2.13	11
Service Summer	3.27	2.78	2.50	1.82	2.88	2.63	2.65	2.57	2.64	18
Work Summer	3.00	2.00	2.13	1.75	3.00	2.63	2.63	1.67	2.35	8
Average x Garment Performance	3.38	2.96	2.74	2.22	3.40	2.91	2.80	2.81		

**Table 3.1:** Performance categories satisfaction survey results of Field, Summer, and Work uniform wearers

Uniform Type	Neck	Chest/Bust	Waist	Hips	Inseam	Sleeve	Average x Uniform Type	No.
Field Summer	3.64	3.18	2.00	2.09	3.09	3.36	2.89	11
Service Summer	3.71	2.88	2.47	2.29	3.24	3.24	2.97	18
Work Summer	3.25	2.75	2.00	1.88	2.50	2.63	2.50	8
Average x Body Location	3.77	3.64	2.25	2.71	2.64	3.70		

**Table 3.2:** Uniform location satisfaction survey results of Field, Summer, and Work uniform wearers

The research of Field uniform wearers was overall consistent with what is outlined in the NPS manual for use and occasions for wear. However, the Field summer uniform in moisture wicking rated the lowest ( $\bar{x}$ =1.55) across all uniform types and garment performance categories. Participants wearer duties and work activities also cited the following from the research: hiking, running, jumping, bending, lifting, outdoor informal interpretation, restoration, wilderness surveying, lifting, and chasing bears.

One participant who wore a duty belt described the Field uniform with agony and cited extreme discomfort in finding the appropriate fit of pants to accommodate her duty belt, typically needing to hold 8-12 pounds of gear.

“...also with the duty belt, as a woman it would be nicer if the rise was just a little higher. Somewhere in between the old pants which were way too high and the new pants that are pretty low. The new pants make it so that I carry the full weight of my duty gear on my hip bones which can actually leave bruises after a little while. It would be better if it could rest just above them, but not up around my rib cage like the old pants were inclined to do.”

The research of Service uniform wearers was somewhat consistent with what's outlined in the NPS manual for use and occasions for wear. Participants cited divisions that were consistent such as Interpretive and Education, Visitor and Resource Protection, Cultural Resources and categories such as Visitor information, Historical Preservation, Conservation Education, Park Guide/Interpretation, however the majority of participants descriptively cited working in both built and natural environments. While the Service uniform arguably caters to individuals working indoors and temperature regulated conditions, service employees' duties and activities are still (in part and based on location) conducted outdoors. According to uniform guidelines, service employees are not allowed to wear shorts or jeans; and as previously stated, pants with creases are preferred and typically range in weights 11oz-16oz.

The research of the work uniform wearers was somewhat consistent with what's outlined in the NPS manual for use and occasions for wear. Participants wearer duties and work activities also cited the following in my research: backpacking, bending, using tools, planting, outdoor repairs, equipment monitoring. Work uniform wearers also stated they would supply their own garments. While the aim of the Work uniform is mostly for duties not visible to the public, participants stated they still wanted to be "identifiable" particularly when needed to command authority. Additional requests included UPF options, and lightweight garment options for hot conditions and while backpacking.

### **Follow-up Interview**

Thematic fit satisfaction topics included overall inconsistent fit, shirt untucking, garment care, dissatisfaction of the hip and waist region, and opting to wear the men's uniform as outlined in Table 3.3.

Themes	Sub-themes	Select Participant Responses
Inconsistent fit	<ul style="list-style-type: none"> <li>Garment sizing</li> <li>Body changes</li> <li>Weight fluctuation</li> </ul>	<p>"For field uniforms I would outgrow them more than wearing them out."</p> <p>"... this is a [garment size] ten I guess and I have two pairs of eights. I prefer the tens because it gives me and allows me to cinch it up a little bit more."</p> <p>"I feel like I've been ordering the same size for years but I have got my tight pants and my loose pants, even though they all say size six."</p>
Shirt untucking	<ul style="list-style-type: none"> <li>Fit of tops and trousers</li> <li>Movements during fieldwork</li> </ul>	<p>"The complaint most people are having is that the women's shirts are actually tailored high and the pants now fit low, so you can't tuck in your shirt and have it tucked in all the time, it just comes untucked."</p> <p>"...the old tops, I never ordered them but there were some in the cache and before my uniform showed up I used them. They are shorter and so they have a tendency to come untucked, whereas these new current shirts I guess are a little longer so are less unlikely to do that and that's nice. If they had a even a little bit more, it'd be nice..."</p>
Garment care	<ul style="list-style-type: none"> <li>Convenience</li> <li>Inaccessible dry-cleaning</li> </ul>	<p>"I'm trying to remember if I ever took it to the cleaners which is what you were supposed to do, at least with the wool part. I must have asked people what they did and they said they just wash it in the washing machine, so that's what I did..."</p> <p>"The lightweight or heavyweight wool pants/wool blend pants I don't even dry clean them anymore. They go through the washer and dryer just fine."</p> <p>"I just [use] regular washer and dryer at home. I think the wool pants technically say they're supposed to be dry cleaned but the last time I found drycleaner in a national park was.. umm never."</p> <p>"...all of mine are cotton or polyester so I just throw them in the wash."</p>
Hip and Waist region	<ul style="list-style-type: none"> <li>Dissatisfaction</li> </ul>	<p>"The women's were cut just too wide in the hips and skinny in the waist"</p> <p>"...if I'm standing up they're a little short. And the thing with these pants, the reason I'm wearing the longer ones because they have a little more room in the waist..."</p> <p>"...women in particular are like "they're so high-waisted"... they are high-waisted but for me that's more of a tradition-type thing."</p> <p>"They're cut very small at the waist and then lots of room in the hips. So they end up being like way too big, for most of us."</p>
Opting to wear men's uniform	<ul style="list-style-type: none"> <li>Dissatisfaction of women's sizing and fit</li> </ul>	<p>"I switched over to the men's pant years ago because they just fit me better."</p> <p>"...all of the women I have worked with over the last ten years, actually order the men's pants because the women's cut doesn't fit."</p>

**Table 3.3:** Follow-up interview thematic results

### ***Results Summary: RQ3 and RQ4***

**RQ3: How do the NPS uniforms meet (or not) the needs of the wearer in their various duties and activities?** Survey and interviews results found that women have worn/continue to wear/prefer the men's bottoms over the women's options. The waist and hip region were cited as a frequent area of frustration, causing women to opt for the men's options. Based on women's participant feedback, tightness in the waist resulted in ill-fitting garments in the waist region and why men's bottoms were preferred. Participants mostly in the Work uniform type but also across all summer uniform types stated they had supplemented the uniform with their own pieces which contradicts what's outlined in the Uniform Manual. Specific brands or articles cited by participants included REI and Patagonia.

**RQ4: How do their current textiles and subsequent apparel designs and finishings meet the demands of their profession?** Survey and follow-up interview participants described a new performance tactical pant that was cited and widely embraced into the uniform pants assortment. According to participants, these were the only pants that provided sufficient mobility and moisture wicking properties. In my observation, having a three-panel front construction of the pant created increased overall mobility of the user as well as reinforcement at the knee location.

## Chapter 6: Study 3 - Ethnography

### *Method: Ethnography*

I conducted ethnographic data collection across eleven National Park sites in public spaces between November 2018 – October 2019. The compilation of the ethnographic field research used an inductive approach and included in-direct observation, informal interviews with visitors, follow-up interviews (from participants of the fit survey), and a field journal was kept. Jenss (2016) referred to ethnography as an immersion of oneself in a specific cultural context and not as a single method (p. 62). According to Pink (2001) it is a “process of creating and representing knowledge (about society, culture, and individuals) that is based on an ethnographer’s experience” (as referenced by Jenss 2016, p. 62). Non-reactive techniques were used when collecting data in public spaces. More in-depth field research was carried out at NPS sites of Yosemite National Park and Cape Cod National Seashore. The ethnographic research helped answer all research questions:

**RQ1:** Historically, how were elements of fashion adopted and/or perpetuated through the NPS uniform?

**RQ2:** What kinds of identities are produced through the NPS uniform and how are they construed or conveyed through the employees who wear them?

**RQ3:** How do the NPS uniforms meet (or not) the needs of the wearer in their various duties and activities?

**RQ4:** How do their current textiles and subsequent apparel designs and finishings meet the demands of their profession?

**RQ5:** What do NPS employees feel that they express through their uniform?

The follow-up interviews began with an oral history of how and why participants joined the NPS and then proceeded to review their fit satisfaction survey feedback. The follow-up interview provided the opportunity to discuss fit in more depth as well as related topics including material culture (i.e., uniform embodiment and communication), ordering process, appearance standards and perceptions, and garment care. There were a few specific scenarios where

participants had recollected memories or something they hadn't been previously aware of remembering during the survey.

Of ranger-led guided programs (mostly from interpretive staff) included activities of museum touring, canoeing, and hiking. In-direct observation was collected usually when waiting for a tour to begin as well as during the tour. I was invited to the home and sharing of a meal with two rangers and also resided within a park during one field visit. The data was axially coded.

### ***Results: Ethnographic***

The research results relied upon the human lived experiences expressed by participants. Participants were asked to describe what the uniform meant from two vantage points. First, what was communicated (to others) through the uniform and secondly, what was embodied in the uniform (to self). Thematic responses of what was embodied included the history and being caretakers, fulfilling a role or duty, and being a contributor to the country. A participant response and support for these themes included:

“...a lot of us are just tied to public service – wanting to help people, wanting to protect these places that we feel strongly about it. I think all of that is tied into these pieces that are our uniform.”

Thematic responses of what is communicated through the uniform included reputation, responsibility, customer service, authority, and being a resource. Participant responses and support for these themes included:

“Definitely being a person on the landscape that people can approach and ask questions about the park is very important about the uniform.”

“It reminded me every time I put it on that I’m working, I have a huge responsibility to protect these special places that have been set aside by Congress that really embody the most special natural resources, the most special habits, the diverse story of heritage, just mostly one of a kind places that the American public, they counts on us. So it comes with the burden of responsibility to make good decisions and take care of them and really part

of our mission is to generate enough interest and concern that the public will also take care of them and want them to last forever.”

What also emerged were Craik’s (2005) different faces of uniforms intersected with Kaiser’s (1997) emphasis on the two way interaction which occurs in symbolic interaction. On one end, respondents were viewed as public servant and a resource to the public and on the other they were viewed as a threat and misunderstood due to their authority. A participant response to support this included:

“...I mean normally law enforcement and interp have little brass badges and maintenance just has it embroidered on their shirt but to expect the public to make that distinction is not fair.... I remember and it wasn’t that long ago that I was the public eye; I didn’t know or care...I’m sure that I would like walk up to interp to report a law being violated just as much as I would walk up to law enforcement and ask for directions. I didn’t know any better. So I don’t know if there’s a way to do it and still keep all the good stuff, on the other hand it is sometimes, dangerous but oftentimes annoying, for all of us to be mistaken for the other groups.”

Further, during some of the in-person interviews, individuals approached the ranger to inquire questions. This exemplified how the uniform is a form of non-verbal communication to the public.

### ***Results Summary: RQ1, RQ2, RQ3, RQ4, RQ5***

**RQ1: Historically, how were elements of fashion adopted and/or perpetuated through the NPS uniform?** Mending of the uniform was expressed by some participants who wished to fix an aspect of the uniform. Two participants cited increased value of older garment pieces of the NPS uniform.

**RQ2: What do NPS employees feel that they express through their uniform?** Thematic responses of what was embodied included the history and being caretakers, fulfilling a role or duty, and being a contributor to the country. Thematic responses of what is communicated

through the uniform included reputation, responsibility, customer service, authority, and being a resource.

**RQ3: How do the NPS uniforms meet (or not) the needs of the wearer in their various duties and activities?** The uniform met “basic” needs expressed by participants however the duties expressed by participants included an array of different activities largely based upon the needs of their particular NPS unit, work category, or season.

**RQ4: How do their current textiles and subsequent apparel designs and finishings meet the demands of their profession?** Stretch materials were favored among participants to increase their range of motion during work activities.

**RQ5: What kinds of identities are produced through the NPS uniform and how are they construed or conveyed through the employees who wear them?** Firstly, during in-person interviews, individuals frequently approached the ranger I was interviewing to ask questions, inquire directions, or approach for help. This exemplified how the uniform commands non-verbal communication and identity to the public. Secondly, there was an interesting dichotomy among the themes of pride and criticism expressed by participants. This was revealed somewhat in the survey but particularly evident during interviews when participants recalled memories of what it was like receiving their first uniform, and how participants described what the uniform communicates and embodies. Given the symbolism of wearing the uniform, there were however candid frustrations. Further, some participants were retired while many have spent (or plan to spend) the better portion of their livelihood wearing the NPS uniform. Wearing the uniform encompasses more than just a functional purpose but a mental, emotional, and cognitive function too.



## Chapter 7: Discussion I – Studies

This chapter discusses Study 1, 2, and 3. First, Study 1 discusses the role of unions and the ACWA, the 1962 reduced size arrowhead emblem, and sociocultural events during the 1970s. Next, Study 2 provides further background and context of the sample, describes uniform allowance and reuse. Finally, Study 3 discusses theoretical perspectives and a social cognitive framework.

### ***Discussion: Study 1 - Archival Object-based Analysis***

The women's uniform has experienced changes throughout its history, particularly when women were first issued a uniform standard in 1947 through the 1970s. Unions played an important role in the textile and clothing industries and advocated for progressive human rights. In addition to the Amalgamated Clothing Workers of America (ACWA), the International Ladies Garment Workers Union (ILGWU) and the Textile Workers Union of America (TWUA) advocated for labor movements which established jobs for factory workers and fought for human rights (The Steel Zipper, n.d; *Textile, Manufacturing & Distribution*, n.d.; *Union-Made*, n.d.). In 1976, the ACWA merged with the Textile Workers of America and became the Amalgamated Clothing and Textile Workers Union (ACTWU). Then in 1995 the ACTWU voted to merge with the ILGWU to form the Union of Needletrades, Industrial and Textile Employees (UNITE). According to the Cornell Kheel Center for Labor-Management Documentation and Archives, the ACWA was “the most significant union representing workers in the men's clothing industry” (The Steel Zipper, n.d.).

The seven ACWA labels identified from the object analysis were from *women's* garments. Some of these labels were hidden within seams or interior pockets which made it

difficult to observe and document. The women of the 1960s and 1970s, as well as decades prior and thereafter, were among a workforce comprised largely of men.

In 1962 women were supplied an arrowhead pin instead of a standard badge that men wore, and arguably limited their capacity of authority. The reduced size of the arrowhead emblem patch on the women's hats and blouses (Figure 4.1) represented uniform gender differences, however there is no record which explicitly states why women's garments needed the reduced size. However, the reduced arrowhead emblem patch used on women's blouses and hat prevailed. It would later be used on the standard cap for *both* men and women in 1970. Additionally, most blouses examined opened right to left which, which is generally how women's garments have been constructed.



**Figure 4.1:** 1962 Women's Blouse reduced size arrowhead emblem (HFCA-00697-119)

Acknowledged yet understated by Workman (1998a, p. 47), were policy events that occurred in society during the 1970s. Select examples included the Equal Rights Amendment passed by Congress in 1972 and *Roe v. Wade* case in 1973 which ruled to protect a woman's liberty to choose to have an abortion. Therefore the 1974 uniform contextually reflected some of these sociocultural shifts which attempted to reduce gender divides and pre-existing gender norms. Two of the women's 1974 uniform options included a "basic pant-suit" and a "women's traditional uniform". This was a step towards women having equal uniforms to men as it

provided pants instead of exclusively dresses and skirts. Interestingly, as my object analysis revealed there were no exterior pockets on the 1974 jackets (only slim interior pockets) so their overall functionality for women was still limited.

### ***Discussion: Study 2 - Fit Satisfaction Survey***

Survey participants were asked to list other NPS system units and duration at each to provide a comprehensive understanding of their background. The sample included participants from two NPS regions with several participants who stated they worked in at least one other NPS unit ( $n=18$ ) over their career, many of which were located in different geographical regions and/or climatic environments. It is not uncommon for employees to work at different locations within one NPS unit, often in different departments (and potentially different geographical elevations).

A higher uniform allowance is accrued the longer the rangers are in service for, and participants stated it was generally an easier process to accrue a sufficient number of uniforms over the duration of their career than it was at the beginning. Seasonal and temporary ranger employees stated there were challenges accommodating all of their uniform needs as well as receiving their items in a timely manner.

A “uniform cache” was described by survey and interview participants and included a center where used uniforms could be donated or picked up for use, mostly supplied by former employees. The “uniform cache” primary audience seemed to mostly serve seasonal or temporary employees who needed a uniform but didn’t have sufficient uniform allowance or feared not getting theirs in time. One interview respondent stated a seasonal employee ordered their uniform and it arrived after they had already left for the season. The delivery lag or back ordered items presented challenges to these employees, as well as to full time employees who

may be ordering items for a particular season such as for cold/hot weather field work.

Miscalculations can and do result in unnecessary production, extracting of resources, and misuse of labor processes.

The uniform guidelines make it difficult for Service employees in extreme environmental conditions such as entrance station kiosks as I observed. This is one of the first points of contact millions of visitors have with the National Park Service and therefore it's understood the visual identity of the NPS is upheld and uniform standards are important; however, if employees are uncomfortable due to their uniform it can have direct implications to their attitude and behavior towards visitors as well.

While women in the NPS historically have been limited in terms of the types of work they were allowed to do, they are vital to the longevity and success of this organization both past and present. It should be acknowledged that as women continue to hold a wider breadth of positions in the NPS that the female human anatomy is different than male counterparts, however women's comfort should not suffer because uniforms were historically catered to men.

### ***Discussion: Study 3 - Ethnographic***

The theoretical perspectives developed by Lennon and Davis (1989) provide a social cognitive framework for understanding clothing and human behavior and as it relates to social perception, categorization, attribution theory, and impression formation. The results provide multiple dimensions to the lived experiences of park rangers in the NPS. One participant eloquently alluded to this: "...people are definitely interesting. Bears are very predictable, for the most part. Humans are not." In summary, the research relied upon park rangers' experiences and perceptions.

## **Chapter 8: Discussion II**

### ***Roles of Parks in Society***

The Bedimo-Rung et al. (2005) conceptual model includes several park environmental characteristics, among them is “aesthetics.” Contributing to the summary of aesthetics cites elements like the size of a park, its layout, landscaping, the balance between sun and shade, and topography. Missing from Bedimo-Rung et al. (2005) perspective among local or city parks is perhaps a much less obvious but an important one: the human element. How do *human aesthetics* influence perceptions of natural and built environments? Expanding “park aesthetics” to include the dressed body, such as uniforms or more specifically the NPS ranger uniform, makes a compelling argument towards how the public perceives and engages with nature in the context of the outdoors at a national park scale. Furthermore, broadening the scope of (1) what park aesthetics is and (2) the process of park planning to include uniform perceptions could enrich and add to growing areas of research such as how clinicians can use nature, and health and resilience research to counsel patients (Razani et al., 2019; Bedimo-Rung et al., 2005; Payne et al., 2013).

### ***Uniform Industry***

This category of apparel focuses largely on the end use which are expansively broad. Among the challenges in this sector is accommodating and keeping pace with the increasingly diverse workplace spanning age, gender, ethnicity, body shape, and height. A uniform serves the purpose of being identifiable while workwear (although similar) is generally for a specific profession, work task, or end use. Workwear/uniforms fulfill the need for people to be identifiable while looking similarly, all the while these individuals differ from size, stature, and shape. Challenges include multiple suppliers with inconsistent product fit, returns due to customer fit, and the equilibrium or “sweet spot” of function and fashion.

VF Imagewear Inc. has had the contract to supply the NPS uniforms since 1978 (“Clothes Make the Ranger,” 2010) and is a subsidiary to VF Corporation. Also in 2014 VF Imagewear was awarded the 5 year uniform management contract for the Department of Homeland Security (*History*, n.d.). VF Corporation is also the umbrella for well-known brands like The North Face, Timberland, Vans, Wrangler, Lee jeans, and Smartwool.

Within the study, several participants cited and positively favored the Cap Cool Sun Hoody by outdoor apparel retailer Patagonia. While licensing outside of the product offering isn’t uncommon, the idea of contracting brands outside of VF Corporation, within the marketplace was an unusual finding. That being said, the outdoor apparel industry at large has collectively come together as activists on social, environmental, and political issues (*Together We Are A Force*, n.d.). As a result of these efforts, the NPS has both directly and indirectly benefitted.

### ***Uniform Design Elements***

The park ranger uniform rate of change throughout its history has received overall minimal changes (Craik, 2005; Musselwhite, 2009) however that is not say there were not changes as well as where fashion was both prevalent and perpetuated, particularly within women’s uniforms as discussed in Study 1. Contrary to Porter’s (2016, p. 30) claim; “remarkably despite the changes in fashion in the last century the NPS uniform today is basically the same.” Porter (2016) goes on to state the uniform has remained the same since what was envisioned of Mr. Mark Daniels, the NPS landscape architect during the early 20<sup>th</sup> century (p. 30). While Porter’s claim mostly supports Jennifer Craik’s (2005) typology of uniforms, elements of fashion have been observed and perpetuated throughout the NPS history and supports RQ1.

Workman acknowledged that “the National Park Service, like any viable organization, has attempted to change with the times—not always for the better”. Winks added, “there was the long period of what’s referred to by the historians as “the tall trees dominance”. Yes there were historical units in 1916, even then. But the “*real Rangers*” were those of course who moved about in quasi-military uniforms and protected Yellowstone, and Crater Lake, and Glacier, and Sequoia, and Mt. Rainer for us.” (*National Parks and the West* | *C-SPAN.org*, 2000, 27:26-27:50). This dominance suggests that those in field officer positions (mainly male) were of superiority over those working in historical areas in the service. Furthermore, as Polly Welts Kauffman, who examined the role of the women in the park service states (2006, p. xxxv):

“Many of the first uniformed women, including the pioneer rangers, superintendents, and maintenance workers, came to believe that they must choose what translated to a male-defined model of behavior and appearance as opposed to a model that would reflect diversity.”

Other perhaps indirect influences of fashion include one of the industry’s most prominent graphic designers. The adoption of indirect influences of fashion also provides support RQ1.

For almost as long as there have been national parks, there have been park brochures. In 1977, graphic designer Massimo Vignelli was enlisted to accommodate the growing need of publications set forth by the NPS. Vignelli developed the Unigrid, a comprehensive graphic design system that standardizes formatting and production, allowing the designers, writers, and cartographers to focus on content and creativity while conveying a strong visual identity for the agency (*A Brief History of the Unigrid*, 2019). The designs are still used and represented across the entire National Park System today. Vignelli won acclaim for the New York subway signage. Vignelli’s influence on fashion included designing the shopping bags at luxury department stores Bloomingdale’s, Saks Fifth Avenue and Barneys department stores in the 1970s (Martin, 2014; Greenbaum, 2011).

### *Circuit of Style-Fashion-Dress Model*

The “circuit of style-fashion-dress” model provides a theoretical framework through which elements are connected, intersected, with opportunities of detours. The “circuit of style-fashion-dress” model (Kaiser, 2012) uses the same rationale of culture flows adopted from the Circuit of Culture (Du Gay et al., 2013). I will be applying various elements of the NPS uniform through this “circuit of style-fashion-dress”.

It can be assumed the needs of today’s rangers were not taken into consideration during initial NPS uniforms, however elements like the fiber and materials and construction are still reminiscent in today’s uniform as they were in their early years. This bears several more questions; What is authentic to the NPS uniform? Can and should we be honoring this authenticity while evolving to the present and simultaneously looking ahead to the future?

From a fiber and materials perspective this presents unique challenges. One cannot help but see the irony or perhaps intent purpose in keeping with tradition in the NPS uniform. As Craik (2005) states the park ranger uniform as a category changes periodically; compared to other industries like airlines, restaurants and food, and sports teams which experience rapid change (p. 127). Today’s winter *and* summer weights uniform assortment contains garments with partial wool content (55% polyester, 45% wool) in the dress skirt, dress trousers, and maternity trousers. Numerous articles in the early years of the park service contained wool content including the first forest green wool uniform and wool worsted uniform jackets and trousers. Furthermore, when the NPS was trying to establish an identity for itself, it used the same pattern as the Forest Service but made out of cadet gray wool with bronze eagle buttons. The subject formation of the NPS uniform is continuously being and becoming where elements of its’ past, present, and future are constantly at play with each other.

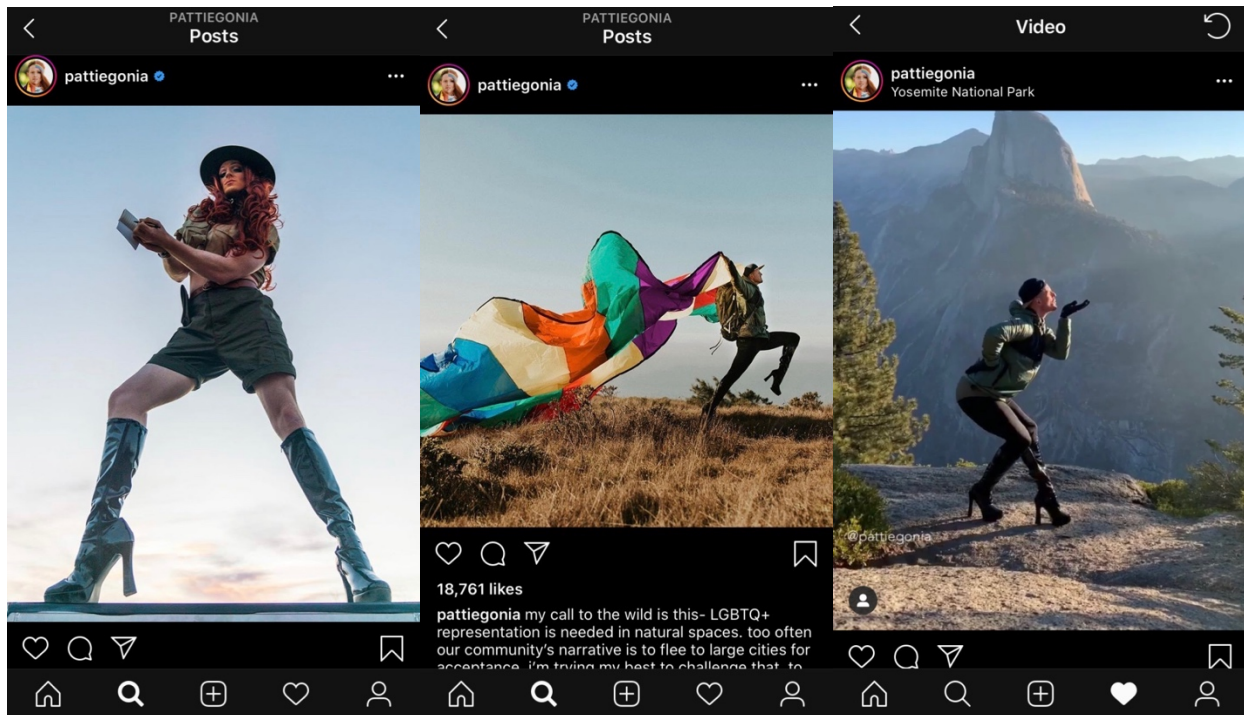


Kaiser (2012) explores how materials like wool are uniquely related (interrelated, intersecting, and detouring) to race, class, and gender. Kaiser states how some historians have shown how feelings about wool could be equated to masculinity, nationalism, and identity differentiation from “feminine” (2012, p. 64). Does the act of wearing such materials embody or attempt to hold on to and “honor traditions” of the NPS’ storied past? It would appear so.

It should be recognized there isn’t a fiber (yet) that doesn’t have some sort of property limitation pertaining to several factors such as end use, care/laundry, strength/degradability, production impact, or cost prohibitive.

From a construction perspective it can be assumed that pocket bag depth for iPhones, walkie talkie accessibility, or even closure systems to accommodate vehicle keys were considered in 1911. Fast forward to 2020 and these items are used on a daily basis presumably in the NPS and in society, however these objects and electronics will at a certain point become artifactual; informing us of us the culture and society we live in, and a path to seek how the body and clothing were intertwined with them.

The outdoors are spaces where rich cultural exchange occurs. The outdoors have been (and continue to become) transformative spaces to conceptualize and reconceptualize gender and sexuality (Green & Kaiser, 2011) and also where music culture has shaped festival fashion (Lifter, 2020). Within the context of fashion, festivals have made the desert a desirable outdoor space. Joshua Tree National Park located in southern California is characterized by rugged rocks and desert landscapes. With proximity to nearby metropolitan hub Los Angeles, Joshua Tree is a popular tourist destination and an increasingly idyllic “instagrammable” location. Activists have used social media platforms to advocate for the outdoors and National Parks as inclusive spaces for body, sexuality, gender, and racial identities (Figure 5.1).



**Figure 5.1:** Pattiegonia Instagram account advocating for the outdoors through body, sexuality, and gender inclusivity. Retrieved from: <https://www.instagram.com/pattiegonia/>

### *Appearance; Policy; and the ambiguity of Appearance and Policy*

The 2000 the National Park Service Director’s Order #43: Uniform reference manual, holds numerous examples reinforcing gender binaries. Craik (2005) discussed the discrepancies and tensions between gendered attributes of uniforms and femininity. “The problem of how to design uniforms for women – especially when they are in positions of authority, physical exertion or potential danger – is unresolved.” “Women in uniforms are inevitably caught up in ambivalent and highly charged concepts of gender, sexuality and sensuality” (Craik 2005, p. 99).

Clothing has the innate ability to broadcast and communicate, as well as subliminally encode and decode messages. To this end, reinforcing gender norms or stereotypes can be woven into this narrative. On one end of the spectrum hyper-femininity historically has been exuded in the NPS uniform. On the other, policies citing in black and white clear distinctions between men and women reinforce this notion of gender binaries and suppression.

As outlined in Director's Order #43 published first published in June 1993, the purpose of the uniform program sets forth the policies and procedures necessary to establish, maintain, and administer the NPS (*Director's Order #43*, 2000). It was then superseded and replaced by the Director's Order (DO) and Reference Manual 43 (RM-43) released October 2000 (*Reference Manual 43 Uniforms*, 2000). Moving into the modern era, a DO (*Director's Order #43: Uniform Program (Amended)*, 2018) and Policy Memoranda<sup>7</sup> (*Policy Memorandum NPS Uniform Program- Amendments to Director's Order #43*, 2018) was released August 2018. It provided some updates and amends, however several aspects of the 2000 edition of the DO remains in effect today, mainly uniform wear standards. Outlined within personal adornment<sup>8</sup> and uniform classes and components<sup>9</sup> sections, revealed disturbing gender restrictions and reinforced gender binaries. These revelations don't explicitly jump off the page, however they highlight how the power of language and how wording in policy can imply underlying meanings. The NPS is doing a disservice to the public and its' employees if proper revisions, amends, and replacements don't demonstrate the decency to exhibit gender inclusivity across all facets of uniform policy.

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<sup>7</sup> Policy Memoranda are an option for creating policy within the National Park Service Directives System. Signed by the Director, their role is to accommodate simple, urgent, or interim policy needs. Unlike Director's Orders, Policy Memoranda usually do not undergo extensive review. The content may be incorporated into existing or proposed Director's Orders. (*NPS Policy Memoranda*, n.d.)

<sup>8</sup> Excerpts from the Uniform Reference Manual (RM-43) 'Personal Adornments' (p.29):

- Earrings. Men are not authorized to wear earrings. Women may wear matching earrings, no more than two per lobe. Earring size must not detract from the overall appearance of the uniform.
- Fingernails must not be over ¼-inch long on women and closely trimmed on men. Women may wear polish that is a conservative shade, complementary to their skin color or to the uniform colors. Men may not wear nail polish.

<sup>9</sup> Excerpts from Uniform Reference Manual (RM-43) 'uniform classes and components' (p.12):

- Formal Attire Use: Formal occasions where men would be expected to wear an evening suit or 3-piece suit, women would be expected to wear a cocktail dress, and military personnel would appear in their dress uniform with a white shirt.

## **Chapter 9: Conclusion**

This chapter discusses design recommendations, future research and limitations, and final conclusions. First, design recommendations include a brief overview of strategies and approaches. Next, design recommendations are reviewed based on the following category areas of materials, design construction, maternity, repair, visitor experience, reuse, rental, color, and merchandising. Future research opportunities and limitations of Study 1, 2, and 3 are examined. Finally, overall conclusions are discussed.

### ***Design Recommendations***

The following design recommendations use a combination of strategies and approaches that apply Design for the Environment (DFE) to clothing and the NPS uniforms. These mainly include Cradle to Cradle approaches (McDonough & Braungart, 2002), Product Design Philosophies (Chouinard, 2016), and Design for Disassembly (DFD) concepts. The research study focused on the research, definition, and idea generation phases of the design process developed by scholars Watkins and Dunne (2015, p. 3-21). The recommendations outlined are not mutually exclusive nor collectively exhaustive. They are based on the needs of park rangers in their various duties and activities as well as the NPS as a whole, that I became informed of during my master's research. Finally, I recommend a thorough and comprehensive reexamination of (1) the NPS uniform program and (2) upholding the values of the NPS uniform within the contexts of all relevant and pertinent communication, historic references, and collateral relating to the NPS identity at large.

Bogue (2007) outlined three stages of the design for disassembly (DFD) concept which entailed applications in the following stages: (1) the selection and use of materials, (2) design of components and product architecture, (3) and the selection and use of joints, connectors, and

fasteners (p. 287). From this, it can be concluded that DFD enables garments to be deconstructed, increases their ability to be repaired, and ultimately aids in extending their lifespan.

Based on the sample population, participants were able to provide input on the current uniform as we consider goals for what future uniforms might be. I argue that radical or sudden changes can risk the image and authority of the uniform though. For example, if the uniforms suddenly became much more casual, that could seriously threaten their credibility and authority with the public. On the other hand, if small changes were explored that reduce the intimidation factor while still working to maintain proper authority, the change could feel much more comfortable and less risky.

Uniforms are a unique sector of the apparel and one area I hope further research examines. Unlike most commercial sectors, certain uniform categories have a relatively constant number of anticipated or forecasted uniform wearers (e.g., school uniforms). The commercial and fashion areas are prone and more susceptible to fluctuations including fashion cycles, cost, personal preferences, or trends. This makes certain categories of uniforms an extremely viable area to incorporate and adopt sustainable social and environmental measures, particularly given their ability to reliably project number of wearers season over season or even year over year.

### Materials

Assessing different factors based on the needs of the NPS aims to provide a wholistic approach. Understanding what the functional needs of the wearer was the first step in this process. This is followed by multiple material selection factors which include (while not limited to) environmental, social implications, water, reuse/circularity, carbon impact, and health.

In looking at the assortment according to the 2016 catalog (the most recent publicly available), there were two factors that vividly stood out. Firstly, the uniform assortment contained a number of garments with (partial) wool content worn by Service uniform wearers and the only option (supplied by the NPS) available for maternity uniform wearers. Being in summer climates and wearing garments with this material is uncomfortable and hot. A lightweight option needs to be a top priority with moisture wicking welcomed. Making improvements in this area alone has possibilities to increase overall employee satisfaction, health, and team morale.

Secondly, there were only two items which listed recycled content and included the Fleece Jacket and Fleece Hat (content: 100% recycled plastic ecologically-sound fleece). It should be acknowledged that less than 1% of material used to produce clothing is recycled into new clothing (Ellen MacArthur Foundation, 2017).

Most polyester in essence is made from plastic and is the most used fiber in the apparel industry. Each wash sheds microfibers into the water stream. Non-profit organization, Textile Exchange drives transformation using preferred fibers, and sets standards and responsible supply networks. Textile Exchange widely supports moving towards socially and environmentally processes and champions natural fibers and less harmful synthetics like recycled products. Where possible the NPS should be moving to recycled polyester, specifically recycled polyethylene terephthalate which uses less water and energy than virgin polyester. An opportunity for innovation would be using the plastic bottles collected in NPS site units and utilizing these towards recycled polyester uniforms. Further, I recommend considering hemp in the material selection process which offers lightweight summer options. My hope is that further research examines possibilities in regenerative hemp as a more widely used fiber which

improves soil health, captures carbon, and ultimately enables jobs in the textile and agricultural industries.

### Design Construction

Employees should not feel they need supplement with “non-uniform” garments because what they do have doesn’t function. Based off this, the construction and end use functionality of wearers in the work uniform was (and should remain) a top priority considered. I recommend the following:

- Increased ease in the seat/thigh areas
  - For women specifically, relaxed hip and thigh region for a more roomy straight leg
- Gusseted crotch for increased mobility in the seat area
- Triple stitch seams for increased durability
- Waist adjusters
- Move to three panel front construction using DFD for increased reinforcement and mobility at the knee location
  - Furthermore, by adopting DFD the garment enhances its’ repairability in places such as the knee location which undergoes frequent abrasion

### Maternity

As more women continue to join and lead the workforce in the NPS, maternity wear needs to meet the demands and reflect what women need and want in their uniform. Asking NPS women what they would like to see in their uniform remains critical. It should also be noted according to regulations, maternity pants in color black may be purchased on the open market in lieu of the pants provided. This research did not explicitly focus on maternity wear, however it did examine why “many women are still unhappy with the sizing and fit of the women’[s] uniform today” (NPS Uniform Collection FAQs, 2019). Judging by a small sample of participants who cited dissatisfaction, discomfort, and embarrassment in this category I can conclude there were shortcomings of both the maternity uniform design/functionality and ordering process. Further research should be conducted more broadly across uniform industries in the area of maternity wear.

### Repair

At present, across most workplaces if garments do not meet the organizational standards of acceptable wear or standards the ideology is to replace and buy new. Firstly, the definition of not meeting acceptable wear and standards should also consider the alternative of a new garment which includes (but is not limited to) the labor involved and extraction of natural resources to produce. Incorporating DFD into the design stages is the first step in a larger process towards thinking and designing with repair in mind.

### Visitor Experience

The NPS has a luminous opportunity to foster textile circularity, something the broader clothing, textiles, and apparel industries are increasingly implementing. This has implications not only in terms of NPS ranger uniforms, but in the visitor experience in National Parks and NPS units which in 2019 received over 327 million visitors. Clothing recycle bins would provide park visitors the option to recycle textiles. Expanding places where visitors, campers, and hikers can recycle would help reduce these items potentially going into landfill. Further research should be conducted to quantify how much textile waste is going into NPS units' landfill waste and what the effectiveness of implementing a park + textile recycling program would be.

### Reuse

A uniform cache described by participant feedback was an informal center (usually a locker of sorts) where rangers could donate their uniforms at their respective NPS unit. It served as an important resource for seasonal and temporary employees who needed a uniform but didn't have sufficient uniform allowance or feared not receiving their uniform in time. Given the informality of the uniform cache described by participants, they usually didn't anticipate or know what they may find in it. It also served as an important resource for rangers to try on their garments prior to utilizing their uniform allowance to understand their size and fit of the garment.



I recommend optimizing the uniform cache and using this to educate employees on uniforms standards. The uniform cache should provide directions for how employees “drop off” their garments. Further, retired employees or those no longer in the service shouldn’t simply be donating their logo-less garments to charity or use for rags (as outlined in the uniform manual). Educational signage can help educate employees in two areas. Firstly, an outline to describe what meets acceptable NPS uniform donation standards for future or current employees could be provided. Secondly, it should describe examples of uniforms that don’t meet standards or is beyond repair in which could be donated for post-consumer textile recycling. Outside partnership would likely be needed outside the agency to execute the textile processing operation.

#### Rental

Seasonal and temporary employees are an asset to the NPS. I recommend moving to a formalized rental based program and discourage seasonal or temporary employees buying new uniforms. As previously discussed, the uniform cache is a vital resource for these employees however it is not a system at present which guarantees a uniform nor provides reliability if their appropriate size or specific uniform type is available when they will need it. According to participant feedback, the timelines employees receive their ordered uniforms can be summarized as mediocre at best.

This would include uniform return information included upfront within their contracts. Further, seasonal and temporary employees shouldn’t simply be “dropping off” their garments in the uniform cache at the end of their fixed term. This would enable garments to be repaired (if necessary), cleaned, and re-worn again.

#### Color

The “green and gray” ranger uniform is symbolic to the identity of the NPS and color plays integral role in this visual communication. Matters become quite complicated using

multiple manufacturers and keeping colors consistent across the product line, as well as the five year contract cycle with uniform suppliers that's in place currently. Variations of "green and grey" as some participants described can occur, and will undoubtedly appear in the future as a result of these factors.

A concern among participants was how to distinguish themselves away from Law Enforcement personnel while also remaining distinguishable and holding the ranger identity. Given the symbolic and historical relevance of the green and grey, I don't argue these colors should be abandoned from field, work, or service uniform. An option would be moving Law Enforcements shirts and trousers items to a singular color such as all green or all grey.

### *Merchandising*

The NPS uniform allowance is accrued over time. The longer you are in service, the more uniform allowance is earned. How can we change the relationship between what employees "need" versus what is allotted in their uniform allowance? How can employees be encouraged to use less and care more for their uniform? Incentives. I recommend providing creative incentives for employees to take part in the repair, reuse, and/or rental initiatives and grow the sixth pillar of the uniform program to: "Utilize environmentally preferable and energy-efficient products and services to the extent possible within the needs of the program."

### ***Limitations and Future Research***

Limitations to object analysis included selective deposit where all records may not have been entirely recorded (or known). The archival collection also contains a restricted population and does not contain items from all wearers of the organization. Further research could compare and examine other occupational uniforms during these periods such as postal or police informs. There were limitations to observer validity as it was impossible to capture all aspects of the garment objects.

Limitations to validity within the survey included the small sample (N =40) and follow-up interview sample (N= 5). Furthermore, the survey sample was overwhelmingly white, and did not represent the viewpoints of multiple groups as well as minorities. A larger sample could offer additional opportunities for increased diversity among the sample. It could reveal patterns on a broader scale and data could be collected from additional populations and geographical locations. A limitation to internal validity included testing. The exposure of the survey could have affected or influenced scores and spurred heightened satisfaction or dissatisfaction of the uniform. A limitation to external validity included participation which relied on snowball sampling. This could have resulted in selection/participation bias. There were some threats to construct validity in the study, however using mixed methods helped reduce mono method bias. Due to location, some (N =2) of the follow-up interviews were conducted over the phone versus in person and not all data was collected using the same instrument/format. Due to survey and interview data collected from August – October 2019 responses reflect warmer temperatures during this period and are a possible threat to external validity. Additionally, data collection relied upon the views of participants and future studies could conduct anthropometric measurements to assess fit.

The ethnographic data collection had observer limitations which also could have threatened validity. Due to my attention and participation being necessary during park group tours I did not always have the ability to document and take notes as just an observer. Further research should be conducted on the Design for Disassembly, and I recommend building upon scholarship in this area (Bogue, 2007; Jin et al., 2011; Russell et al., 2010; Young et al., 2004) so it can be more readily understood and adopted across multiple clothing sectors and industry wide.

## ***Conclusion***

Uniforms are an important aspect of society to consider, they carry and exhibit meanings. Uniforms encode and decode messages, information, status, and identities. Formal uniform codes are often spelled out in black and white, to guide individuals and groups on how to wear, what to wear, and why to dress the body accordingly. We're exposed to formal and informal types of uniforms every day, subliminally communicating to us. Further, uniforms often provide the capacity to fulfill, protect, and carry out a myriad of duties.

The object-based analysis where fashion was prevalent and perpetuated among the Women's 1960s and 1970s uniforms provided a unique lens to socio-cultural events, movements, and the role of women during these periods (RQ1). Identities were produced through the uniform past (Study 1) as well as present (Study 3) (RQ2). The uniform met basic needs of rangers in their various duties and activities (Study 2), however women in particular cited frustration in the hip/waist region as well as participants needing to supplement with their own items (RQ3). Additionally, participants desired stretch materials in uniform garments for increased range of motion and comfort (RQ4). Current ranger participants expressed being caretakers as well as upholding a reputation (RQ5).

This research had a special focus on women in the NPS. Further, women have been historically underrepresented and whose voice hasn't been always listened to. The NPS benefits by having women included in the feedback collected of satisfaction of the uniforms. Based on the history of the NPS and inconsistent inclusion of women, special attention being paid underrepresented groups in the decision process is important. As Polly Welts Kauffman stated in 1984, "the number of women rangers can no longer be counted on the fingers of one hand" and "women are here to stay" (Kaufman, p. 8). One participant in my research stated "The first

[women] rangers that were out there – it was a totally different world that’s for sure. So it’s come a long ways”.

By analyzing our historical past, observing and opening dialogue to the present, we can make sound decisions for the future. The recommendations provided are a compilation from various intersections within my academic thesis research, interviews, field observations, archival research, knowledge of apparel and textiles, 11 NPS Passport stamp cancellations (and counting), and a wild heart for the outdoors.

This bears an important question to consider: Do the uniforms we supply threaten the very places we protect for future generations? This thesis adds to our knowledge and hopeful continuation of related research. Further, this research contributes to better understanding the human condition of 22,000 permanent, temporary, and seasonal NPS employees and help better serve the millions of visitors each year. This is a first step in a larger process, which moves us toward improving lives through socially and environmentally responsible ethics for future generations.

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## Appendix 1: Object Analysis

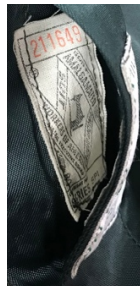
HFCA-00697-792



HFCA-00452-150A



HFCA-00697-144



HFCA-1136-1207





HFCA-00520-146



HFCA-00952-147



HFCA-1136-1181



## Appendix 2: IRB Approval



**Cornell University**  
Office of  
Research Integrity and Assurance

East Hill Office Building, Suite 320  
395 Pine Tree Road  
Ithaca, NY 14850  
p. 607-254-5162  
f. 607-255-0758  
[www.irb.cornell.edu](http://www.irb.cornell.edu)

### Institutional Review Board for Human Participants

#### Notice of Exemption

**To:** Jane Leyva  
**From:** Amita Verma, Director, ORIA  
**Protocol ID#:** 1810008340  
**Protocol Title:** Park Service Uniforms  
**Approval Date:** November 01, 2018  
**Expiration Date:** None

A handwritten signature in black ink that reads 'Amita Verma'.

Your protocol has been granted exemption from IRB review according to Cornell IRB policy, which permits exemption for:

Surveys/Interviews/Standardized Educational Tests/Observation of Public Behavior Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior if: i) information obtained is recorded in such a manner that human subjects cannot be identified, directly or through identifiers linked to the subjects; or ii) any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability or reputation.

Please note the following:

- Investigators are responsible for ensuring that the welfare of research subjects is protected and that methods used and information provided to gain participant consent are appropriate to the activity. Please familiarize yourself with and conduct the research in accordance with the ethical standards of the Belmont Report (<https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/index.html>).
- Investigators are responsible for notifying the IRB office of change or amendments to the protocol and acquiring approval or concurrence **BEFORE** their implementation.
- Progress reports, requests for personnel or other administrative changes, or requests for continuation of approval are not required for the study. However, upon conclusion of the study, please submit a Project Closure form: <http://www.irb.cornell.edu/forms>.

For questions related to this application or for IRB review procedures, please contact the IRB office at [irbhp@cornell.edu](mailto:irbhp@cornell.edu) or 607-254-5162. Visit the IRB website at [www.irb.cornell.edu](http://www.irb.cornell.edu) for policies, procedures, FAQs, forms, and other helpful information about Cornell's Human Participant Research Program. Please download the latest forms from the IRB website [www.irb.cornell.edu/forms/](http://www.irb.cornell.edu/forms/) for each submission.



## Appendix 3: Survey



Cornell University

### **Cornell University**

### **Consent for Participation in Research**

### **National Park Service Uniform Applications**

#### **Why am I being asked?**

You are being asked to participate in a National Park Service research study titled National Park Service Uniform Applications. I will describe this study to you and answer any of your questions. This study is being led by Jane Leyva, pursuing a masters degree in the Department of Fiber Science and Apparel Design at Cornell University. The faculty advisor chair is Dr. Denise Green in the Department of Fiber Science and Apparel Design at Cornell University.

#### **What the study is about:**

The purpose of this research is to better understand the relationship between National Park Service uniforms and social cognition. This research asks 1) How do members of the public perceive NPS uniforms? 2) What do NPS employees feel that they express through their uniform? 3) How do the NPS uniforms meet (or not) the needs of the wearer in their various duties and activities? 4) How do their current fabrics, finishes and subsequent apparel designs meet the demands of their profession?

#### **What will you be asked to do?**

Upon consent, you will be asked to complete a survey questionnaire and are invited to interview.

#### **Risks and discomforts:**

No risks from participating in this research is anticipated.

#### **Benefits:**

Information from this study is aimed at informing a better understanding of the role of the National Park Service and the National Park Service uniform in society.

#### **Compensation for participation:**

There is no compensation for participating in this study.

#### **Privacy/Confidentiality/Data Security:**

Signed consent forms will be kept separate from the survey data and the two will not be connected. Basic demographic data and employment/volunteer regions/sites will be identified and collected. Identifiers such as names will be de-identified. Only the research committee will have access to identifying information. It is anticipated that your participation in this survey presents no greater risk than everyday use of the Internet. Please note that email communication is neither private nor secure. Though the principal researcher will be taking precautions to protect your privacy, you should be aware that information sent through e-mail could be read by a third party. Your confidentiality will be kept to the degree permitted by the technology being used. We cannot guarantee against interception of data sent via the internet by third parties.

#### **Sharing De-identified Data Collected in this Research:**

De-identified data from this study may be shared with the research community at large to advance science and health. Any personal information that could identify you will be removed before files are shared with other researchers to ensure that, by current scientific

standards and known methods, no one will be able to identify you from the information we shared. Despite these measures, we cannot guarantee anonymity of your personal data.

**Taking part is voluntary:**

Your participation is voluntary, and you may refuse to participate before the study begins, discontinue at any time, or skip any questions/procedures that may make you feel uncomfortable with no penalty. Participation has no effect on academic standing, or relationship with the Fiber Science and Apparel Design Department, College of Human Ecology, or Cornell University. The investigator may withdraw you from this research if circumstances arise which warrant doing so. If the respondent is under 18 years of age, he/she will not be included in this study.

**If you have questions:**

The main researcher conducting this study is Jane Leyva, a graduate student at Cornell University. Please ask any questions you have now. If you have questions later, you may contact Jane Leyva at [jel345@cornell.edu](mailto:jel345@cornell.edu), or Dr. Denise Green at [dng22@cornell.edu](mailto:dng22@cornell.edu).

If you have any questions or concerns regarding your rights as a subject in this study, you may contact the Institutional Review Board (IRB) for Human Participants at 607-255-5138 or access their website at <http://www.irb.cornell.edu>. You may also report your concerns or complaints anonymously through Ethicspoint online at [www.hotline.cornell.edu](http://www.hotline.cornell.edu) or by calling toll free at 1-866-293-3077. Ethicspoint is an independent organization that serves as a liaison between the University and the person bringing the complaint so that anonymity can be ensured.

---

**Consent of Participation:**

I have read the above information and have received answers to any questions I asked.

☐ Yes, I have read the informed consent.





What is your age?

- ☐ 18-24
- ☐ 25-34
- ☐ 35-44
- ☐ 45-54
- ☐ 55-64
- ☐ 65-74
- ☐ 75-84
- ☐ 85 years or older
- ☐ Click to write Choice 9

What is your ethnicity?

What is your gender?

Which National Park or National Park System Unit do you currently/did you most previously work in?

Please list your current, or most recent employment tenure at this National Park or National Park System Unit?

Date (mm/dd/yyyy)

Hire Date

Last Employment  
Date

Does/did your job require you to wear a uniform issued by the National Park Service?

- ☐ Yes
- ☐ No

Select your role in the National Park Service:

- ☐ Employed
- ☐ Formerly Employed
- ☐ Volunteer
- ☐ Retired

☐ Other

If applicable, please list all other National Parks or National Park System Units you have worked in and duration at each.

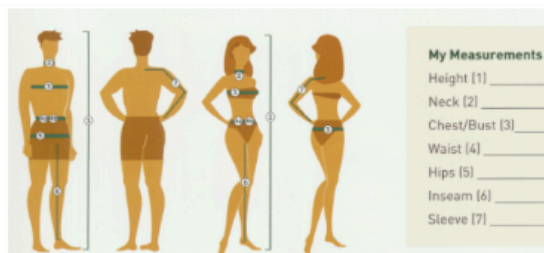
	Date Started (mm/dd/yyyy)	Date Ended (mm/dd/yyyy)
National Park or NPS Unit 1 <input type="text"/>	<input type="text"/>	<input type="text"/>
National Park or NPS Unit 2 <input type="text"/>	<input type="text"/>	<input type="text"/>
National Park or NPS Unit 3 <input type="text"/>	<input type="text"/>	<input type="text"/>

Which division(s)/role(s) of the NPS do you currently/did you most previously work in?

- |   |  |
|---|--|
| <input type="checkbox"/> Administration             | <input type="checkbox"/> Natural Resources   |
| <input type="checkbox"/> Facilities Maintenance     | <input type="checkbox"/> Visitor and Resource Protection                                     |
| <input type="checkbox"/> Cultural Resources         | <input type="checkbox"/> Resource Management   |
| <input type="checkbox"/> Interpretive and Education | <input type="checkbox"/> If other or more than one, please describe:<br><input type="text"/> |

What work category(ies) do you currently/did you most previously work in?

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Archaeology              | <input type="checkbox"/> Historical Preservation    | <input type="checkbox"/> Research/Librarian                             |
| <input type="checkbox"/> Biologist                | <input type="checkbox"/> Information Technology     | <input type="checkbox"/> Soil/Hydrology                                 |
| <input type="checkbox"/> Botany                   | <input type="checkbox"/> Lifeguard                  | <input type="checkbox"/> Timber/Fire Prevention                         |
| <input type="checkbox"/> Campground Host          | <input type="checkbox"/> Minerals/Geology           | <input type="checkbox"/> Trail/Campground Maintenance                   |
| <input type="checkbox"/> Construction Maintenance | <input type="checkbox"/> Natural Resources Planning | <input type="checkbox"/> Park Guide/Interpretation                      |
| <input type="checkbox"/> Conservation Education   | <input type="checkbox"/> Office/Clerical            | <input type="checkbox"/> Visitor Information                            |
| <input type="checkbox"/> Fish/Wildlife            | <input type="checkbox"/> Pest/Disease Control       | <input type="checkbox"/> Other (Please Specify)<br><input type="text"/> |



Did you utilize or reference the 'How to Measure' instructions provided in the NPS ordering catalog (see above)?

- ☐ Yes
- ☐ No. Please describe how your uniform size was determined.

Describe the natural environment(s) and climate(s) you work/ed in? (e.g. campgrounds in a dry climate and hot temperatures, trail maintenance on uneven terrain in snow, rain, sun, high wind conditions)

Describe the built environment(s) you work/ed in? (e.g. office, visitor center, entrance station)



Using the image above, please select which uniform classification and season you wear most frequently. If multiple, please select one which contains the majority of your tasks and duties. Please note the following visual is a guide and not exhaustive of all garments for each classification environment/climate/duties.

- ☐ Service Summer Uniform (i.e Public contact positions)
- ☐ Service Winter Uniform (i.e Public contact positions)
- ☐ Field Summer Uniform (i.e Public contact positions where environmental conditions dictate a more practical uniform)
- ☐ Field Winter Uniform (i.e Public contact positions where environmental conditions dictate a more practical uniform)
- ☐ Work Summer Uniform (i.e Work projects, backcountry use)
- ☐ Work Winter Uniform (i.e Work projects, backcountry use)
- ☐ Dress Uniform
- ☐ Other. (Please specify)

Please list any garment articles not representative in the visual guide above that you wear/wore most frequently.

Based off these environment(s) and where applicable, please rate your uniform satisfaction in the following categories. (1=very dissatisfied, 2=somewhat dissatisfied, 3=neither dissatisfied or satisfied, 4=somewhat satisfied, 5=very satisfied, N/A=Not applicable)


	1	2	3	4	5	N/A
Protection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mobility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comfort	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Moisture Wicking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thermal Heat Retention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ultraviolet Ray Blocking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waterproof	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flame Retardancy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please list any categories not listed. If dissatisfied, specify why.

List the duties of your job. In relation to each duty task, please rate your satisfaction with how the uniform functions. (1=very dissatisfied, 2=somewhat dissatisfied, 3= neither dissatisfied or satisfied, 4=somewhat satisfied, 5=very satisfied)

	1	2	3	4	5
Job Duty 1 <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job Duty 2 <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job Duty 3 <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job Duty 4 <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job Duty 5 <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Based on the duties of your job, please rate your uniform fit satisfaction in each of the following locations. (1=very dissatisfied, 2=somewhat dissatisfied, 3=neither dissatisfied or satisfied, 4=somewhat satisfied, 5=very satisfied)

	1	2	3	4	5
Neck	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chest/Bust	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hips	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inseam	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sleeve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If applicable, please describe the fit and function satisfaction of the NPS ranger hat. Please explain.

Any additional comments.

**Follow up studies:**

We may contact you again to request your participation in a follow up interview. As always, your participation will be voluntary and we will ask for your explicit consent to participate in any of the follow up studies.

May we contact you to request your participation in a follow up study?

- ☐ Yes  
☐ No

