The Effect of Congressional Committee Assignments on National Park Annual Operating Budget Appropriations

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THE EFFECT OF CONGRESSIONAL COMMITTEE ASSIGNMENTS ON
NATIONAL PARK ANNUAL OPERATING BUDGET APPROPRIATIONS

by

Braden T. Morrill

A thesis submitted in partial fulfillment
of the requirements for the degree
of

MASTER OF SCIENCE

in

Political Science

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Logan, Utah

2022
ABSTRACT

The Effect of Congressional Committee Assignments on National Park Annual Operating Budget Appropriations

by

Braden T. Morrill, Master of Science

Utah State University, 2022

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Department: Political Science

The National Park Service has faced substantial shortfalls in funding resulting in a $12 billion maintenance backlog. Funding for national parks includes a history of funds being allocated based on individual member interests rather than the requests of the National Park Service. This project evaluates the effect that yearly visitor increases, congressional committee membership on the Natural Resources and Appropriations Committees, party control of Congress, and state and district representation have on distributive budget allocations for yearly national park operating budgets. Using statistical analysis, I show how yearly visitor increases, the party and majority status of the district and state members representing a national park on the Natural Resources Committee impacts the annual operating budget of individual national park budgets. Results of this study do not show an effect of membership on the Appropriations Committee. This study demonstrates that the distributive benefits allocated by Congress
to national parks are based on individual incentives and not the needs of the national parks.
PUBLIC ABSTRACT

The Effect of Congressional Committee Assignments on National Park Annual Operating Budget Appropriations

Braden T. Morrill

Yearly funding for individual national parks is overseen and determined by the House Appropriations and Natural Resources Committees. This process has resulted in the National Park Service being underfunded and facing a $12 billion maintenance backlog. Congress has passed temporary funding to help reduce this backlog but has not indicated a shift in how funding decisions are made to prevent future shortfalls.

This thesis uses statistical analysis to explore how individual members of Congress are impacting funding for national Parks in their states or districts. Often congressional committee’s act on personal incentives to make funding decisions rather than basing their decisions on recommendations by experts. These results have significant implications for the future of national park funding and the role of committees in Congress.
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Braden T. Morrill
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INTRODUCTION

National parks in the United States are drastically underfunded. Currently, the National Park Service faces an approximately $12 billion maintenance backlog. Recent legislation passed by Congress attempts to reduce this backlog. Still, a long-term solution capable of preventing further increases in the maintenance backlog requires understanding the budgetary system that has led to the initial shortfalls in funding allocations. This project seeks to evaluate the effect that yearly visitor increases, congressional committee membership, party control of Congress, and district representation on the Natural Resources and Appropriations Committees have on the distributive benefits decisions impacting budget allocations for individual yearly national park budgets. Understanding the impact of each of these will add to the discussion on how to fund the National Park Service in future budgetary cycles.

For this study, I used regression analysis on an original dataset of congressional committee assignments, House member characteristics, individual national park visitor statistics of 46 national parks, and budget allocations for years ranging from 2000 to 2020, which covers the 106th-117th Congresses. I found that interaction models showed that funding increases at a greater proportion when; yearly visitor rates increase and a Democrat represents the park, the park is represented on the Natural Resources Committee by a Democrat member from the state of the park, and if the park’s district or state representative is a Democrat who is also part of the majority. Surprisingly, I found no evidence for increased funding for parks with House member representation on the Appropriations Committee.
National parks in the United States of America have a long and tumultuous funding history. Yellowstone, the first national park established by President Ulysses S. Grant on March 1, 1872, covered roughly 2 million acres and welcomed 300 visitors in its first year. In the last 150 years, Yellowstone has become a park that hosted 4,860,242 visitors in 2021 and functioned on an operating budget of $37,371,000 for that year. Other newer and smaller parks, such as Congaree National Park, operate on a budget as small as $1,817,000 and saw 119,306 visitors in 2021. Significant variations in national parks' size, infrastructure, and funding are present. The largest park, Gates of the Arctic National Park in Alaska, covers nearly 8.5 million acres, while the smallest park, Hot Springs National Park in Arkansas, is only 5,550 acres in size. Funding at times for all parks has been a roller coaster of programs and initiatives focused on park development and conservation.

OVERVIEW OF NATIONAL PARK FUNDING

Current funding of the National Park Service comes from a combination of federal discretionary budget appropriations, revenue generated from fees and concessions, private philanthropy, and in-kind donations (Bilmes and Loomis 2019). Funding the park system using this method is insufficient, unstable, and unsustainable (Sutton, Duncan, and Anderson 2019). When looking at inflation-adjusted dollars, the largest account that funds basic National Park Service operations received less funding in 2020 than 2011 (Comay n.d.). Inadequate funding for parks has resulted in maintenance
backlogs due to the undervaluing of national parks' environmental benefits and contributions (Sutton, Duncan, and Anderson 2019).

Estimates of the value of U.S national parks put the ecosystem service value of the lands overseen by the National Parks Service in 2016 to be $98 billion a year. These numbers should justify a budget of roughly $30 billion a year rather than the combined $3 billion it currently operates on (Sutton, Duncan, and Anderson 2019). Additional analysis estimates that at least a third of the benefits from national park lands benefit individuals who never set foot in the parks (Blimes and Loomis 2019). Parks provide value to the environment in and around the park by protecting ecosystems and being a carbon sink (Sutton, Duncan, and Anderson 2019). The economic value provided to communities around national parks includes increases in the tourism and hospitality industry (Koontz et al. 2017). Understanding the process of funding allocations will contribute to solving the problem of inadequate funding for national parks. A continuation of the current trends in funding will be insufficient to maintain the long-term growth and upkeep of the park system (Bilmes and Loomis 2019; Sutton, Duncan, and Anderson 2019). Failure to sufficiently fund parks each year will only continue to expand the growing backlog of maintenance requests and make conservation funding efforts increasingly difficult.

The National Park Service is housed within the Department of the Interior and overseen by the Natural Resources Committee and the Appropriations Committee (Visconti 1998). These two committees hold the majority of power over the budget and
project approval within the National Parks Service. Across party lines, national parks are considered national treasures. The nearly universal public appreciation for the National Park Service is frequently used as a tool for leverage in spending battles, leading to uncertainty in annual funding allocations (Bilmes and Loomis 2019). Analysis of funding allocations in national park budgets demonstrates that funding priorities focus on the visitor experience rather than on conservation efforts, despite the primary mission of the National Park Service being the preservation of lands (Visconti 1998). Congress's decision to fund projects to enhance the visitors' experience rather than meeting the budget requests of the National Park Service demonstrates the flaws in the appropriations system for national parks. This flaw is an example of how members of Congress use their positions on committees for district level benefits that they believe will help them politically. Examples of this in past budgetary cycles include instances where Congress has decided to apportion funds for new visitor centers in parks that are not even requesting them and deny funding for other projects (Visconti 1998). These decisions are attributed to members using their positions of power on the Natural Resources or Appropriations Committee to score points with their constituents rather than pay attention to the requests of the National Park Service (Clarke 1997).

Statistical analysis in this project seeks to see what effect membership on these committees has on allocating funds to national parks operating budgets. Doing so will help to understand the benefits of committee assignments. In addition, analyzing the effect of congressional membership of individuals with an expected interest in national
parks on these committees will demonstrate the relationship between lawmakers who are more or less likely to prioritize funding for individual parks and actual funding allocations. Finally, understanding the theory of distributive politics and the debate on how to allocate funds will help explain and demonstrate how future funding will likely be distributed to parks.

THEORY OF DISTRIBUTIVE POLITICS

Distributive politics explain how resources are allocated and are often the talking points that candidates emphasize in their campaigns to get elected (Stokes et al. 2013). If elected, candidates will claim that they will represent their constituents by getting more funds for a project or group. It is no longer acceptable in developed democracies to buy constituents' votes explicitly, but it is acceptable to appeal to voters through material self-interest programs (Stokes et al. 2013). This form of distributive politics is viewed as legitimate and just when two criteria are met. First, public reason and deliberation must establish the rules for who gets what resources. Second, when resources are distributed the public rules are followed (Stokes et al. 2013). What incentivizes distributive policy can be a complicated puzzle with many variables influencing why those in power of shaping policy choose to allocate resources to some programs but not others.

Members of Congress request positions on committees at the beginning of each new Congress, with assignments ultimately being made by party leadership (Bye 1979). Self-selection requests by members are often based on a desire for increased influence in
areas of distributive politics that will benefit their constituencies (Rohde and Shepsle 1973; Weingast, Shepsle, and Johnsen 1981). Explanations for which committee(s) members try to get on are that legislators plan to use their committee positions to “claim credit, stake positions, and otherwise enhance their re-election positions” (Berry and Fowler 2016, pg. 706). Committees that do not offer influence over distributive benefits still offer representational benefits by allowing members to signal ideological preferences to constituents (Ryan 2021). In actuality, not all member requests for committee assignments are related to district level characteristics (Frisch and Kelly 2004; Ryan 2021). Requests to be on three committees are consistently associated with district level characteristics, Agriculture, Foreign Affairs, and Interior/Natural Resources (Frisch and Kelly 2004). These three committees significantly impact district-level distributive benefits policy, likely contributing to members' rationale for requesting a seat on them.

House members behave as if increasing benefits to their district will increase their re-election chances, even though research shows that this benefit is not always accurate in their re-election potential (Stein and Bickers 1994). Despite the traditional belief that positions on important committees enable members of Congress to procure increased funding to benefit their districts, a 2016 study found this not to be true, except for the chair of the Appropriations Committee, which provided a small benefit for their district (Berry and Fowler 2016). Other studies dispute the claims and find support for the traditional view of committee membership, finding area specific benefits for each of the focuses of their studies (Payne 2003; Cohen, Coval & Malloy 2011; Berry, Buden, &
Howell 2010). Differences in results in these studies are caused by differences in the research design of the projects, with one taking into account constituent demand impacts on spending outcomes (Berry and Fowler 2016) that the other studies did not. Utilizing spending data introduces measurement error in evaluating legislative appropriations leading to null results. Analyzing legislative appropriations data is a more accurate measure and suggests that committee positions enable members to influence distributive policy benefits to their districts (Hammond and Rosenstiel 2020). This study will focus on legislative appropriations to avoid measurement errors introduced by spending data.

Despite canonical theory, holding seats on “key committees” has, in some cases, been found to produce little additional spending for respective districts (Berry and Fowler 2016). Between 1941 and 1991, congressional budget reform led to a steady decline in the Appropriations Committee’s share of spending decisions. These reforms led to spending tradeoffs becoming more visible and resulted in the Appropriations Committee giving more power to subcommittees (Thurber 1997). Findings that suggested no effect of members joining the House Appropriations Committee also suggest that committee assignments are not nearly as important as was previously thought (Berry and Fowler 2016). Other works find that the Appropriations Committee retains significant autonomy in Congress. Woon and Anderson argue that committees are not “faithful agents of the majority party but instead remain independent sources of influence” (Woon and Anderson 2012; Hammond and Rosenstiel 2020). The debate over the actual impact of committees on distributive politics will likely continue. Still, other studies on the
perceived value of each committee to members of Congress show that the Appropriations Committee ranked second in importance to members of the House.

In contrast, the Natural Resources Committee ranked tenth (Groseclose and Stewart 1998). Groseclose and Stewart did not evaluate the effect of committee importance on distributive benefits. Still, it is reasonable to infer that members of Congress perceive their ability to increase distributive benefits to their district in a specific policy area based on the committees they are on.

**Partisanship and Distributive Benefits**

Partisan platforms in the United States often focus on differing priorities. A change in majority party control of the House results in changes in spending priorities for Congress (Stokes et al. 2013; Lee 2003; Bickers and Stein 2000). Congressional control is therefore crucial to individuals and parties' ability to exert their agenda on budgetary appropriations.

Parties have been found to target types of voters in election returns successfully but are not as successful in targeting individual districts' results (Levitt and Snyder 1995). Despite this, models evaluating the partisan effect on distributive politics have shown support for the role of parties in the allocation of benefits and support for influential legislators' role in acquiring benefits for their jurisdictions (Levitt and Poterba 1999). Parties' efforts to obtain benefits for influential legislators helps to explain differences in distributive benefits for minority and majority party districts. Additional support for the
benefits of House control shows that members of the majority party do considerably better than similarly situated members of the minority party (Engstrom and Vanberg 2010). Beyond just majority party benefits, analysis of legislative earmarking found that majority party members, specifically members who held agenda-setting positions or were in electorally vulnerable positions, benefited more from earmarks than similarly situated minority members (Engstrom and Vanberg 2010). Majority control of the House leads to benefits for both the party in power and for districts represented by the majority party.

A THEORY OF NATIONAL PARK SERVICE FUNDING

To analyze and understand budgetary allotments given to national parks, one must first know how different aspects of Congress impacts the distributive benefits of the National Parks Service. There is an extensive debate seeking to determine the scope of the actual effect that committees, majority party control, and individual member factors have on the allocation of district level distributive benefits, compared to the effect members of Congress claim to have. Members of Congress and some scholars argue that committee membership allows for increased distributive benefits to committee member districts (Thurber 1997; Hammond and Rosenstiel 2020; Woon and Anderson 2012). Others claim that changes in distributive funding are the result of control of the House changing from party to party, and individual members have little impact on benefits to their districts (Berry and Fowler 2016).
Creating a programmatic funding system for the national parks is the best solution to eliminate funding waste and meet the vast differences in each park's potential needs. Significant variations in park visitor numbers, geography, infrastructure, and ecological makeup create funding needs that require complex analysis to determine the priority of these projects. Understanding the conditions that create a demand for increases in funding for specific parks will help to facilitate discussion about the adequacy of current programs and the relevance of funding respective to the needs of the park or the individual interests of members of Congress. The nature of the National Parks Service would suggest that funding for individual parks' yearly operating budget should not see significant variation between parks each year due to differences in the attributes of parks with representation on committees. The system of budgetary requests coming to Congress from the National Park Service should create a programmatic funding system based on each national park's needs. Differences in funding tied to aspects of representatives suggest that individual park funding is a form of non-programmatic distributive politics created by the influence and personal needs and views of members of Congress on key committees.

**National Park Funding**

National Park Service funding comes through multiple avenues. Six accounts form the budget of the National Park Service, and each of these receives funds through different means and with specific spending designations.
1. Annual Operating Budget- 76% of the national park's total budget is designated for the park's day-to-day operations, including visitor services, park protections, and facility maintenance.

2. Construction Account- 12% of the national park's total budget is designated for rehabilitation and replacement of new facilities and new construction.

3. Land Acquisition and State Assistance Account- 6% of the national park's total budget, funded through the land and water Conservation Fund, is designated for Land Acquisition and grants to states for recreation needs.

4. Historic Preservation Fund Account- 4% of the national park’s total budget is primarily for National Park Service formula grants and tribal historic preservation.

5. National Recreation and Preservation account- 2% of the national park's total budget designated for assisting state, local, and tribal leaders with outdoor recreation planning, resource preservation, and other activities.

6. Centennial Challenge Account- Less than 1% of the national park's total budget provides matching grants to donations for projects or programs designed to further enhance the NPS mission and visitor experience (Comay n.d.).

The primary account for national parks is the annual operating budget, and as such, it is the focus of this project. The annual operating budget is submitted to and approved by the Natural Resources Committee and Appropriations Committee of
Congress. Each park unit within the National Park Service is listed and approved within the budget. During the approval process, Congress has the ability to adjust funding to parks and accounts within the submitted National Park Service budget request. After congressional approval, funds within the National Park Service are challenging to reallocate and require additional congressional approval for even relatively small changes in the budget. This system is a significant factor contributing to the funding failures of the National Park Service (Bilmes and Loomis 2019).

Funding for national parks as a whole is a form of non-programmatic distribution. Blimes and Loomis demonstrate how the variety of committees and programs that determine funding for the park system create a complex system that fails to provide adequate funding (Bilmes and Loomis 2019). Funding decisions from committees that determine national park funding are not based on a formula that decides which programs or initiatives should or should not be funded. Instead, funding is allocated based on what representatives on these committees deem to be of greatest importance based on their interpretation, assumptions, and interests.

“Direct park operations: The largest category of government funding is direct park operations, which fund salaries and routine maintenance. Congress appropriates a specific line-item amount to each of the 419 individual Park units. These totals are fixed in the budget process and cannot be changed by the Secretary or the Director without going back to Congress with a reprogramming request. Within each Park, the individual superintendents have limited flexibility on how to allocate the budget because the vast majority of expenditures are fixed costs (such as payroll and utilities)” (Bilmes and Loomis 2019, pg. 157).
Using regression analysis and modeling the impact of visitor data, the party affiliation of members, committee membership on the Natural Resources and Appropriations Committees, and party control of Congress, I can explain trends in park funding allocations to the annual operating budget.

Visitors Influence

Hypothesis 1: Parks with a greater increase in the proportion of visitors who visit per year will see a higher yearly operating budget increase when they are represented by a Democratic member in the House of Representatives.

The quality of a visitor’s experience rather than the quality of efforts related to preserving resources determines park success (Visconti 1998). As a result, National Park Service funding and project priorities focus on visitor accommodations and tourist amenities. Data on a park’s yearly visitors indicates facility usage within a national park and is a good estimator of the wear occurring to park facilities. Yearly changes in visitor numbers for parks are the motivating factor that is the leading justification for changes in annual budgetary allocation. High approval ratings of national parks amongst Americans make it likely that popular national parks should receive higher funding levels than less popular parks. Utilizing this data will serve as a measure to further look at party differences when determining budget allocations.
Parties

Differences in agenda priorities between the Republican and Democratic parties make it likely that there will be a difference in funding for national parks represented by a Democratic member of the House compared to national parks represented by a Republican member of the House. Conservation efforts tend to be agenda items pushed more by the Democratic Party than the Republican Party (Gershtenson, Smith, and Mangun 2006; Karol 2019). I expect increased spending should be even more prevalent in districts with a Democrat House member because of the electoral benefits Democrats receive from sending more money back to their district compared to the electoral cost that Republicans incur. Conservative Republican voters are far more likely to vote against incumbents in their party for overspending than reward Democrats who cut spending (Sidman and Mak 2006). At the same time, liberal Democrats are more likely to reward Republicans who send more money back to the district (Sidman and Mak 2006).

Out of personal and party interest, larger increases in yearly budgetary allocations should occur in parks represented by a Democrat as compared to parks represented by a Republican. Differences in partisan platforms concerning the role that the federal government should play in protecting and funding public lands, combined with historical evidence of funding based on visitor data, lead me to believe that parks with a greater increase in the proportion of visitor attendance per year will see a higher yearly operating budget increase when a Democratic member of the House represents them as compared to parks represented by a Republican member.
Committees

Hypothesis 2A: Membership on the House Appropriations Committee by a member from the state/district of a national park will result in an increase of yearly operating budget allocations.

Hypothesis 2B: Membership on the House Natural Resources Committee by a member from the state/district of a national park will result in an increase of yearly operating budget allocations.

The current discussions on the factors influencing distributive policy offer conflicting opinions on the ability of committee members to affect distribution. On one side of the debate are scholars who argue that individual members on committees can significantly impact distributive policies to benefit their constituencies. In contrast, other scholars argue that this idea is mainly fictitious, and individual members have little or no measurable impact on distributive policy that affects their district. Scholars who favor a member's ability to influence distributive policy often focus on earmarked project funding awarded to districts (Woon and Anderson 2012; Hammond and Rosenstiel 2020). Despite these claims, others have shown that the increased project funding is not necessarily dependent on a member's committee assignments (Berry and Fowler 2016).

Members of the House who represent districts with district level characteristics related to the committee's assignments are highly interested in serving on the Natural
Resources Committee (Frisch and Kelly 2004). For example, members requesting to be on the Natural Resources Committee tend to be from districts with large amounts of land in public trust (Frisch and Kelly 2004). Therefore, high interest levels for serving on the Natural Resources Committee should lead to increased funding for parks in districts with members representing them on the committee.

The Appropriations Committee is another highly sought after committee for most members of Congress because of the committee’s ability to oversee funding bills (Woon and Anderson 2012). In addition, oversight over appropriations bills should lead to the members representing districts with national parks being able to increase funding for parks in their districts (Payne 2003; Cohen, Coval, & Malloy 2011; and Berry Buden & Howell 2010).

Studies show inadequate funding across the board for the National Park Service. Despite this, members of the House of Representatives campaign on the platform that they advocate for parks in their district (Clarke 1997; Visconti 1998). Analyzing the distribution of resources to park operating budgets will demonstrate if these claims of increased funding exist in the operating budget of national parks or if these claims are unsubstantiated. I expect to see a funding increase for parks with members representing them on the Appropriations and Natural Resources Committees compared to parks with no representation on the committees. Members who can increase funding for parks in their district believe increased funding will increase tourism and benefit local businesses (Koontz et al. 2017). Bringing these benefits to a member's district will likely translate
into higher approval ratings, a greater chance of re-election, and a continued position on these committees.

I expected membership on the Natural Resources and Appropriations Committees by those representing districts or states with national parks would increase funding allocated to individual parks in their respective districts and states. The effect should be even greater for parks represented by members who are Democrats, based on the Democratic Party traditionally being more in favor of conservation efforts and increased distributive policy funding. In addition, raising funds for a park in a member's district demonstrates to voters that the member is successfully advocating for their district at the federal level. Members hope that doing so will result in voters rewarding the individual member and potentially the member's party in future elections.

**Majority Control and Park Funding**

Hypothesis 3A: National parks with a Democratic representative from the state of the national park during periods of Democratic majority control of the House of Representatives will result in a larger increase of yearly operating budget allocations.

Hypothesis 3B: National parks with a Democratic representative from the district of the national park during periods of Democratic majority control of the House of Representatives will result in a larger increase of yearly operating budget allocations.
In this study, I included majority party status as a potential causal variable based on existing models and theory that suggest that majority status should create a more accessible avenue for representatives to seek additional funding for parks in their states or districts. While this is likely to occur, the majority party still has an incentive not to push a partisan allocation to its limits. It will prevent this by rewarding the minority party with some benefits to prevent minority procedural maneuvers that would create a delay in the process (Binder 1997). There remains the possibility that differences in funding between parks based on the party affiliation of representative members and majority control of the House may not be substantial enough to create significant results as parties attempt to appease minority members to prevent excessive gridlock (Binder 1997). Regardless of the possibility of the majority party appeasing the minority party through allocations of distributive benefits that may impact park funding, I expect to see majority party status impact annual national park budgets. Majority control of the House should enable members of the majority party to successfully advocate for increased funding for parks in their districts, as compared to members of the minority party who will have a limited ability to advocate for increased funding (Engstrom and Vanberg 2010).

DATA & METHODS

Data for this project focuses on the House of Representatives and the National Parks Service. The period of interest ranges from the budgetary year of 2000 through the
fiscal year of 2021. Data prior to 2000 was not included in the analysis because individual national park data prior to 2000 proved to be unreliable and difficult to obtain. The unit of analysis for this project was “park-Congress,” where I compared individual park budget average increases from Congress to Congress with each other to evaluate the effect of attributes of park representation in congressional committee membership on yearly budgetary allocations. I obtained data for Congress from the Charles Stewart congressional dataset (Stewart 2021) and national park data from the National Park Service (Budget (U.S. National Park Service) n.d.; Stats Report Viewer n.d.).

**Member Characteristics**

Congressional data information was composed of data pulled from data compiled by Charles Stewart (Stewart 2021). The data of interest for this project taken from the Stewart data for members of Congress was:

- The state and district a member represented
- Committee membership on the Appropriations Committee
- Committee membership on the Natural Resources Committee
- Majority status during a given Congress
- Member's party affiliation

I selected state and district information to pair members with parks statistics that fell within their representative districts and states, allowing for comparisons of state and district representation effects. I evaluated state and district representation variables
because states with multiple national parks or multiple members in Congress are likely to advocate for parks in their state regardless of whether the park is specifically in their district. As discussed above, I selected the Appropriations and Natural Resources Committees as committees of interest because of their oversight and approval role to the National Parks Service. Finally, I included party affiliation and majority/minority status to allow for the ability to model the impact of the party agenda on the distribution of funds for individual park units.

**Park Characteristics**

The National Park Service oversees a variety of sites, lands, monuments, and other attractions throughout the country. The focus of this project is on national park units, which themselves vary dramatically. Data for other national park units like National Recreation Areas, National Historic Sites, and National Monuments are available. However, for feasibility purposes, I chose to focus this project on national parks, which are the largest and most recognizable component of the National Park Service, making them the units most likely to be of political value to members of Congress.

To analyze the parks, I selected significant attributes of the parks to evaluate and pair them with members of the House. Park characteristics of interest that I obtained for this project include;

- National Park Operating Budget
- Yearly visitor totals
- Park Size
- State and District location of Park

I obtained national park operating budget data through a query of yearly greenbook reports submitted by the National Park Service to Congress (Budget (U.S. National Park Service) n.d.). Visitor data comes from an online national park visitor statistics database hosted on the National Park Service website (Stats Report Viewer n.d.). I obtained additional descriptive data, such as park size and state and district location of each park, to match parks with representatives. I determined park locations for parks that covered multiple districts or states by assigning them to the district where the majority of the park is located.

**Dependent Variable**

The dependent variable of interest is the individual yearly national park operating budget determined by Congress each budgetary cycle. I chose this measure to evaluate the differences in funding allotments for parks. As discussed earlier, this is the category of national park funding that, according to Comay (2020), has seen negative growth in the decade between 2011 and 2020. To measure the effect of Congress on national park budgets, I included the variable “operating budget” to track the year-to-year budget of each park. The operating budget variable was standardized and converted to the year-to-year proportional change for each park. Utilizing year-to-year change rather than budget
totals reduced the impact of the vast differences between park size and need. In addition, doing so focused the results on the influence of individual members and their ability to increase funding for the parks they represent. National park budgets are determined on a yearly basis. However, because Congress only changes every two years, I averaged changes in park budgets across years that the same Congress allocated to overcome a problem of overdetermination. Eliminating the problem of overdetermination, cut the overall number of observations in the dataset in half.

**Independent Variables**

I chose independent variables of interest based on attributes of congressional members that previous studies have shown influence distributive policy and park attributes that I believed should influence changes in park funding. Potential causal independent variables that were analyzed are listed below; all dichotomous variables were coded 1 for a yes and 0 for no for each listed variable.

- Park visitor proportional change from the previous year, which is a continuous measure
- Congressional member from the district of the park on the Appropriations Committee
- Congressional member from the state of the park on the Appropriations Committee
- Congressional member from the district of the park on the Natural Resources Committee
- Congressional member from the state of the park on the Natural Resources Committee
- Majority party status of the member, coded as 1 for majority and 0 for minority.
- Member party affiliation coded as 1 for Democrat and 0 for Republican. House members of another party or independent were only coded as Democrats if they caucus with the Democrats.

The party representation at the district level for individual parks within the dataset switches 54 times out of the 373 observations. Park representation at the state level does not change as often. The lack of variation at the state level is due to the majority of states being multi-member states and having at least one member from that state that is from each major party. Despite this, there are still twelve observations of a park state representation switching from having at least one state Democrat representative to no state representatives that are Democrats. Fluctuations in funding increases for parks should be seen when park party representation changes parties between Congresses.

I used robust standard errors, clustered by park, to avoid skewed results in comparing changes to park budgets. In addition, I included fixed effects for park and Congress in each of the models allowing me to account for the variation within park units and Congress. Finally, I selected variables of interest based on an evaluation of the theories discussed above that show existing patterns of distributive politics. Based on
these theories, I should see effects on congressional budget allocations for individual park units based on yearly visitor increases, the party of members of Congress representing a national park unit, the majority party in Congress during the budgetary cycle, and committee membership on the Appropriations and Natural Resources Committees.

RESULTS

I found significant results to support the following hypotheses.

- 1. National parks with a greater increase in the proportion of visitors who visit per year will see a higher increase in budget increases when they are represented by a Democratic member in the House of Representatives.
- 2B. Membership on the House Natural Resources Committee by a member from the state/district of a national park results in an increase of yearly operating budget allocations.
- 3A. National parks with a Democratic representative from the state of the national park during periods of Democratic majority control of the House of Representatives receive a larger increase in yearly operating budgets.
- 3B. National parks with a Democratic representative from the district of the national park during periods of Democratic majority control of the House of Representatives receive a larger increase in yearly operating budgets.
I found no evidence to support the hypothesis that increased funding for parks would occur with House member representation on the Appropriations Committee.
Table 1: Effects of Congressional Characteristics on National Park Operating Budget Appropriations

<table>
<thead>
<tr>
<th>Model</th>
<th>Intercept</th>
<th>Visitor Proportion Change</th>
<th>Democrat in District</th>
<th>District Member Part of Majority</th>
<th>District Member on Appropriations</th>
<th>State Member on Natural Resources</th>
<th>State Member on Appropriations</th>
<th>State Member is a Democrat</th>
<th>State Member is Part of the Majority</th>
<th>Visitor Proportion Change* Democrat in District</th>
<th>Democrat from State* State Member Part of Majority</th>
<th>District Member is a Democrat* District Member Part of Majority</th>
<th>State Member on Appropriations* State Member Part of the Majority</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>0.973***</td>
<td>0.026</td>
<td>-0.073#</td>
<td>0.007</td>
<td>0.0001</td>
<td>-0.001</td>
<td>0.0001</td>
<td>0.05***</td>
<td></td>
<td>0.077#</td>
<td>-0.032**</td>
<td>0.106**</td>
<td>-0.012</td>
<td>303</td>
</tr>
<tr>
<td>Model 2</td>
<td>0.909***</td>
<td>0.044*</td>
<td>-0.051***</td>
<td>0.006</td>
<td>0.003</td>
<td>0.02**</td>
<td>0.0006</td>
<td>0.034***</td>
<td></td>
<td>0.008</td>
<td>-0.003</td>
<td>0.034**</td>
<td>0.008</td>
<td>303</td>
</tr>
<tr>
<td>Model 3</td>
<td>0.884***</td>
<td>0.043*</td>
<td>-0.003</td>
<td>-0.47***</td>
<td></td>
<td>0.006</td>
<td></td>
<td></td>
<td></td>
<td>-0.032**</td>
<td></td>
<td></td>
<td>0.008</td>
<td>313</td>
</tr>
<tr>
<td>Model 4</td>
<td>1.01***</td>
<td>0.042*</td>
<td>-0.003</td>
<td>-0.47***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.012</td>
<td>303</td>
</tr>
<tr>
<td>Model 5</td>
<td>0.0924***</td>
<td>-0.003</td>
<td>-0.003</td>
<td>-0.032**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>303</td>
</tr>
<tr>
<td>Model 6</td>
<td>0.923***</td>
<td>0.044*</td>
<td>-0.003</td>
<td>-0.003</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>303</td>
</tr>
</tbody>
</table>

Notes: Numbers in parentheses are standard errors.
*** p < 0.001, ** p < 0.01, * p < 0.05, # p < 0.1
Testing hypothesis 1, National parks with a greater increase in the proportion of visitors who visit per year will see a higher increase in budget increases when they are represented by a Democratic member in the House of Representatives. Model 1, presented in Table 1, shows a significant effect of a park having a representative from the district if measured at the 90% confidence level, with a p-value of 0.051 for the interaction of visitor proportion change and Democrat representing the district. All other variables in this model did not appear to have a significant effect besides having a Democrat representing the park's district, which was significant at the 90% level.

Interestingly, the interaction results of this model have a positive effect, while the individual variable of having a Democrat in the district alone has a negative effect. Interpreting the interaction implies that when there is no change in visitor numbers for a park, funding decreases for parks represented by a Democrat.

Figure 1 shows the conditional effects of the interaction, making it more clear that as the proportion of visitor change increases for a park, there is a more drastic increase in annual budget allocations to parks that Democrats represent as compared to parks that Republicans represent. Parks represented by Democrats (Figure 1, right panel) see a
proportional increase in yearly budget appropriations, increasing from 0.98 to 1.10 as the yearly proportion of visitors increases from its minimum to its maximum. Parks represented by a Republican member (Figure 1, left panel) maintain an almost equal increase in budgets regardless of the proportional increase in yearly visitors, ranging from 1.03 to 1.07 as yearly visitors increase from the minimum to the maximum. As seen in the right panel of Figure 1, parks with a Democrat representative may see a slight decrease in funding when there is little to no increase in visitors. Still, parks represented by Democrats will see a more substantial increase in their budget as the proportion of visitors increases more dramatically compared to those represented by Republicans. This initial decrease could help to explain why the individual effect of having a Democrat from the district had a slightly negative effect on yearly budget allocations. The results of this model are consistent with existing theories regarding the partisanship of members and their likelihood to increase distributive benefits.
Figure 1: Predicted Probabilities of Proportional Budget Increase, Conditional on Member Party Affiliation and Yearly Park Visitor Increase

Note: Graphs generated using the interaction results of District Member is a Democrat* Proportional Yearly Visitor Increase from model 1, and 90% confidence intervals are shown.

Model 2, as seen in Table 1, is an evaluation of hypothesis 2B: Membership on the House Natural Resources Committee by a member from the state/district of a national park results in an increase of yearly operating budget allocations. As seen in the chart, parks with a member from their state on the Natural Resources Committee receive a significant annual operating budget increase of a proportion of nearly 0.02, or a 2% increase in the annual operating budget, as compared to parks with no member from their state on the Natural Resources Committee. States with a Democrat representative receive an even more significant increase in their annual budget of a proportional increase of
nearly 0.05 or a 5% increase in annual operating budget allocations. A somewhat surprising effect was that the interaction of having a state member on the Natural Resources Committee and that member being a Democrat resulted in a significant but negative effect.

Figure 2 shows the conditional effect of the interaction. I found that the parks that receive the largest on average increase in annual budget allocations have a state representative who is Democrat and who is not on the Natural Resources Committee. While this condition also has significant overlap with parks that have Republicans and Democrats representing them on the Natural Resources committee. There is a significant difference between parks represented by Republicans and Democrats that do not have a place on the Natural Resources Committee. Representation on the Natural Resources Committee is especially important for parks from Republican heavy states if they desire to receive additional funding for their annual operating budgets.
The results of Model 3 displayed in Table 1 test for hypothesis 3A: National parks with a Democratic representative from the state of the national park during periods of Democratic majority control of the House of Representatives receive a larger increase in yearly operating budgets. As seen in Model 3 of Table 1, the results of the park having a state member that is a Democrat regardless of if they are part of the majority has a 0.086 proportional effect or an 8.6% increase, on the annual operating budget. Having a state member that is a Republican and part of the majority had significant positive results impacting the annual operating budget. Leading to an average annual operating budget
proportional increase of 0.0392 or 3.9%. The interaction of state members being a Democrat with state members being part of the majority also showed significant positive results.

The interaction results for Democrat state members and state members being part of the majority are displayed below in Figure 3. As seen, there is a difference in yearly budget increases for parks based on party control. The most significant difference is between the effect of parks represented by a Democrat who is in the minority as compared to a park represented by a Republican who is part of the minority. Based on the chart, funding for national parks increases in almost all scenarios but increases at a much higher proportion for minority Democrats than minority Republicans.
As seen in Model 4 of Table 1, the model testing hypothesis 3B: National parks with a Democratic representative from the district of the national park during periods of Democratic majority control of the House of Representatives receive a larger increase in yearly operating budgets. Results from the model show a negative and significant effect of the district member being a Democrat when they are not part of the majority, resulting in an estimated proportional decrease to the yearly budget of -0.0512 or an approximately -5% decrease in yearly budget appropriations. The variable for the district member being a part of the majority party also returned a significant but negative effect on the yearly budget for an estimated decrease of 0.0475 or a yearly budget decrease of -4.7%,
demonstrating that a park represented by a district member who is a Republican and part of the majority will likely see a decrease in funding. The interaction term for a park represented by a district member who is a Democrat and majority member results in a significant positive effect on the estimated budgetary increase.

Figure 4 shows that yearly national park operating budgets increase at a higher rate when Democrats are the majority party in Congress, regardless of whether the representative from the national park district is Republican or Democrat. Under Republican control, the potential range in variation between park allocation increases, but the average increase is less than during periods of Democratic majority. The range in variation suggests that control of subcommittees and the ability to set agenda items likely influence the ability of congressional Democrats to increase funding to programs that they view as important. This concept would support Sidman and Mak’s claims of party influence on the congressional agenda and budget allocations (Sidman and Mak 2006). The figure demonstrates that out of either personal or party interest, larger increases in yearly budgetary allocations should be seen in years under Democrat majority rule as compared to Republican majority rule.
Contrary to my expectations, membership on the Appropriations Committee had no significant effect on park budgetary allocations. I found null results in all models, including when an Appropriations Committee member was from the specific district of a national park, part of the majority party, and was a Democrat. I expected these to be the most likely member types to advocate for increased funding for national parks based on the results from the model of the Natural Resources Committee and from what we know of the Democratic party platform and their views on the environment and conservation.

Model 5 of Table 1 shows the interaction of a state member on the Appropriations Committee interacted with the majority party. Despite this theoretically ideal scenario, a
p-value of 0.613 causes me to fail to reject the null hypothesis that congressional membership on the Appropriations Committee of a member representing a national park will have no effect on the yearly operating budget increase. I expected to find significant results for parks represented on the Appropriations Committee.

Table 1 Model 6 shows that the null result holds at the state level. On its own, this is another surprising result by itself. The results of Table 5 add additional support to the idea that membership on the Appropriations Committee may not have as large of an impact on distributive policy as many in and out of Congress believe it to have.

The results from both Model 5 and Model 6 provide no support for hypothesis 2A: Membership on the House Appropriations Committee by a member from the state/district of a national park results in an increase of yearly operating budget allocations. The results of this model make it so I cannot reject the null hypothesis and leave the results as inconclusive.

Understanding the impact of partisan control of committees on national park funding allocation is crucial to furthering Blimes and Loomis’ discussion of the budgetary shortfalls of the National Park Service. This research supports their advocacy of a multi-year budgetary cycle to reduce the fluctuations resulting from changing congressional majority party control (Bilmes and Loomis 2019).
CONCLUSION

Based on the models evaluated in this study, there is an inconclusive impact on individual national park annual budgets based on membership on the Appropriations Committee and a slightly significant impact based on membership on the Natural Resources Committee. The effect appears to come primarily from the park representation in the House of Representatives being in the hands of Democrats as compared to Republicans.

The results of this project support Berry and Fowler’s argument that the role of committees in distributive policy is not as impactful as is perceived. While my analysis found some impact on individual parks' annual budget allocations, the effect appears to be primarily the result of party control of Congress. In contrast, the individual members on committees appear to be unable to dramatically alter funding for parks in their district as compared to parks without a representative from their state or district on the committee. The only exception is a slight advantage to parks with a member from their state on the Natural Resources Committee.

Further research should be done on the National Park Service's distributive policy beyond individual national parks. Research in the future should look deeper into the wide variety of committees and earmarks that impact the funding of the other National Park Service budgetary accounts. Utilizing a dataset of all units overseen by the National Park
Service could lead to more significant effects can being drawn for committee impacts on funding.

Additionally, expanding the study's dependent variable to include other accounts that contribute to the management of the individual parks could show where members of Congress are capitalizing on distributive policy opportunities. To thoroughly analyze the factors that impact distributive policy regarding the National Parks Service, an analysis of the five additional accounts that comprise the National Park Service budget will help to understand what, if anything, influences congressional funding decisions for the agency. It is reasonable to believe that members of Congress in positions of oversight and approval would advocate more strongly for funding of projects that benefit parks in their state and district in hopes of seeing electoral returns. It is also reasonable to believe that lobbying for individual projects may be easier than lobbying to influence the annual operating budget allocations, where adjustments seem to come less frequently, a theory that Lee found support for in his 2003 study of funding for transportation projects (Lee 2003).

Future research focused on specific committee funding areas of earmarked project components of budgets rather than yearly budget accounts could show other non-programmatic funding impacting the National Park Service. For example, an additional analysis could further demonstrate how funding for parks is driven by politics and not by park needs, helping explain the maintenance backlog plaguing many of the parks around the country. Understanding the cause of the insufficient funding for national parks is
crucial to creating a future funding system capable of protecting these American treasures for future generations.
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