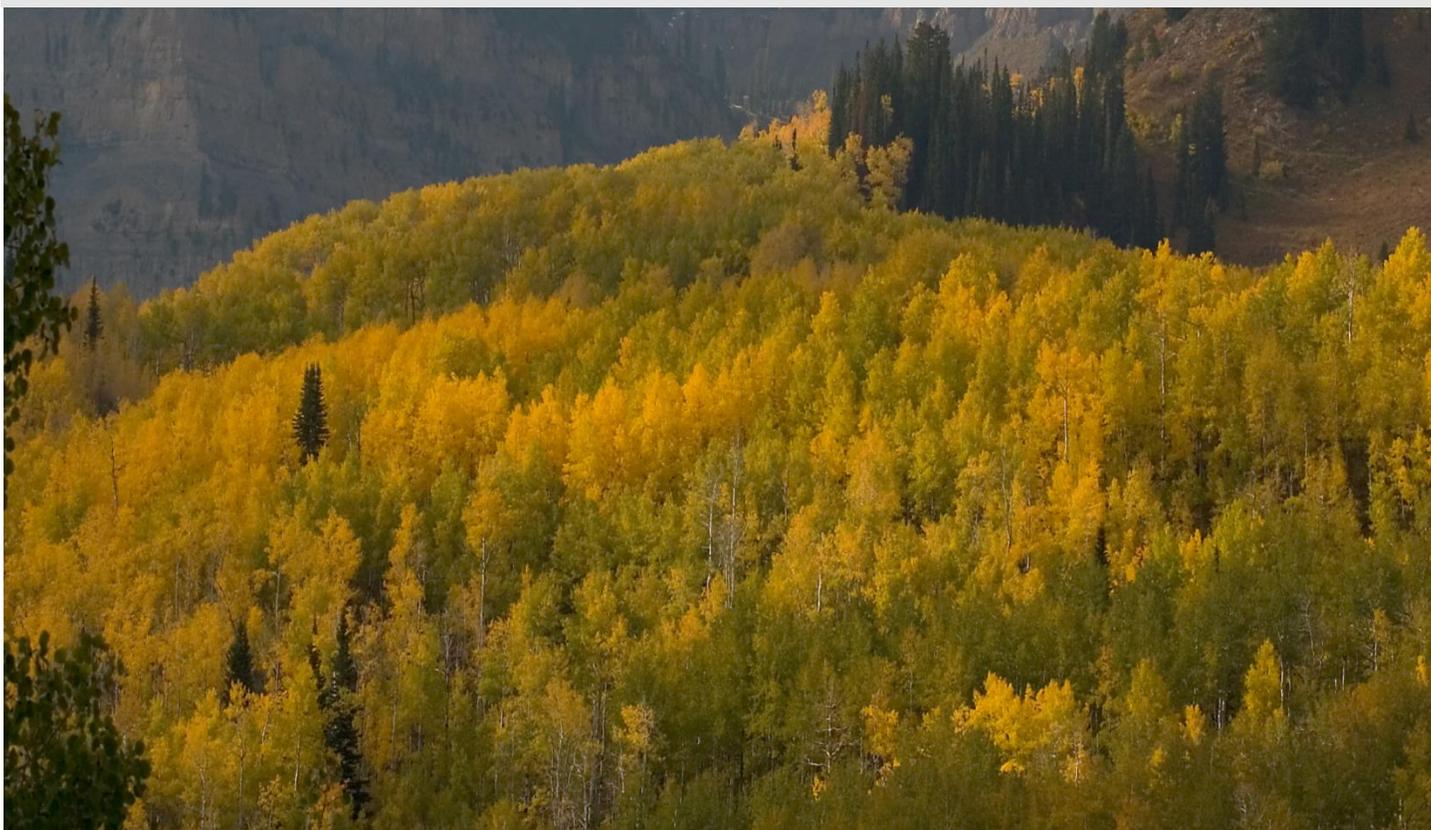




AN ANALYSIS OF THE  
NATIONAL FOREST  
ECOSYSTEM  
IMPROVEMENT ACT OF  
2017



# **An Analysis of The National Forest Ecosystem Improvement Act of 2017**

Columbia University | School of International and Public Affairs | The Earth Institute  
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## EXECUTIVE SUMMARY

In response to the problems facing the US National Forest System, US Senator John Barrasso of Wyoming introduced the National Forest Ecosystem Improvement Act of 2017 (S.879; hereafter “the Act”) in April 2017. It proposes solutions to certain environmental and regulatory problems that have reduced the ability of the USDA Forest Service to effectively manage the National Forest System. More specifically, the Act would establish minimum annual requirements of one million acres of mechanical thinning and one million acres of prescribed fire treatment. Within that mechanical thinning requirement, at least 400,000 acres need to be managed through commercial thinning and 60,000 using even-aged management techniques. The Act aims to both increase and stabilize the timber supply from the National Forest System and to help fund ecosystem restoration.

This Act aims to accomplish the following objectives:

1. Restore terrestrial habitat
2. Sustain water quality and/or watershed health and function
3. Create, improve, and/or increase early seral habitat
4. Carry out needed timber stand improvement
5. Reduce the risk or extent of insect or disease infestation
6. Reduce wildfire severity potential
7. Implement a community wildfire protection plan
8. Establish, recover, or maintain ecosystem resilience

The Act primarily seeks to improve forest management by expediting the regulatory review process. Currently, most forest management projects carried out by the Forest Service undergo review through the National Environmental Policy Act (NEPA). Challenges to proposed management actions frequently result in judicial action. This Act will place limits on the judicial review process to hasten implementation of proposed projects. Most significantly, the Act establishes conditions for projects to be categorically excluded from NEPA

review and the associated public review period. These projects would thus have limited opportunity for public oversight, and could begin implementation rapidly following their proposal.

Proposals for management actions that are not categorically excluded will still require an environmental assessment but the Act would limit some aspects of the existing NEPA review process. Environmental Assessments produced under this Act would be shorter, produced more quickly, and less complex than those currently required by NEPA for most forest management projects. The Secretary will provide public notice and an opportunity to comment for 30 days following an Environmental Assessment for each ecosystem restoration project. If there is an objection, the proposal may still be challenged by judicial review, though the objector is required to post a bond to cover legal costs before challenging an action in court.

Additionally, the Secretary has wide discretion to elect to use arbitration to resolve objections to certain projects. If a public objection is made and arbitration is elected, the objector will present an alternative to be considered. The arbitration decision is binding, not considered a major Federal action and not subject to judicial review.

To accommodate all of the changes to the Forest Service’s management review process, we have designed a regionally-focused implementation program. This program involves treatment action plans being created by employees in each Forest Service region. These plans are developed into proposals that will be assessed by a newly created review panel and sent to the Chief of the Forest Service’s office. This program design will allow forest management to be created by those Forest Service employees who know the needs of the forest, and then reviewed by a team of people with a wide range of expertise. This design will create efficiency and result in projects that best serve the interests of the National Forest System.

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## INTRODUCTION

“THE FORESTS OF AMERICA,  
HOWEVER SLIGHTED BY MAN,  
MUST HAVE BEEN A GREAT  
DELIGHT TO GOD; FOR THEY WERE  
THE BEST HE EVER PLANTED.”

- JOHN MUIR

The USDA Forest Service (hereafter referred to as the Forest Service) manages 193 million acres of forests and grasslands throughout the continental United States, Alaska, Hawaii, and Puerto Rico (Forest Service, 2013). In recent years, the Forest Service spent more than half of its annual budget fighting wildfires (Forest Service, 2015). In addition to the increasing number of severe wildfires, the National Forest System is facing significant challenges including increasing insect and disease infestation (e.g. Figure 1), degradation of water quality and watershed health, destruction of habitat and declining biodiversity, and underdeveloped timber stands that fuel catastrophic wildfires and reduce economic potential.



Figure 1: Tree mortality caused by the Hemlock Canker disease in Prince of Wales Island, which is managed by Region 10 of the Forest Service.

Source: USDA Forest Service.

A lack of proper forest management including prescribed burning and mechanical thinning has left

the National Forests increasingly susceptible to the effects of climate change and pest and disease outbreaks. These issues are inextricably linked to the increasing frequency of severe wildfires. In addition, achieving compliance with the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA) can often cause significant delays in implementing management. Delays related to administrative review can reduce the total extent of active forest management carried out by the Forest Service (Stern et al., 2009). NEPA established a requirement for every federal agency to consider the environmental impact of projects with federal funding. Under NEPA, the Forest Service must submit an environmental impact statement for most management actions and follow a process that allows a reasonable time for public review and comment, as well as time for an independent agency assessment. These impact assessments, public review periods, and agency reviews can delay management so significantly that an otherwise preventable emergency worsens while the Forest Service cannot manage the problem.

Implementing proper forest management can reduce the risk of catastrophic wildfire, while improving ecosystem conditions and generating revenue through timber sales. These management techniques can only be implemented effectively if the Forest Service is able to spend more time and money actively managing forests instead of using that time and money on administrative and judicial reviews. The National Forest Ecosystem Improvement Act of 2017 gives the Forest Service adequate flexibility regarding these reviews to hasten the management process and improve the health of America’s National Forests.

## PROGRAM DESIGN

The significant changes this Act makes to the existing review process of forest management plans require new organizational structure within the Forest Service. We wanted this design to both improve the ease and efficiency of management while also ensuring that forest health is considered along with the Forest Service's other interests. We decided that the Forest Service employees who work in the local forest every day and know the site-specific problems would be the most able to construct proactive and effective treatment plans. Thus, a regionally initiated program is the best way to implement the components of the Act that change how management is done within the National Forest System. Each of the nine regions of the Forest Service has district rangers, forest supervisors, and a regional forester. With a regionally initiated program, the work will begin at this regional level. The district rangers and forest supervisors will collect and synthesize data on their forests and formulate treatment action plans. These plans will include their recommendations as to which forest management activities are needed for their forests. These treatment action plans will be submitted to the regional foresters, who will compile information from multiple plans and create formal project proposals (Figure 2).

The Regional Forester will then submit these project proposals to a review panel. These project proposals will be presented in a standardized format that is provided by the Chief of the Forest Service. This makes it easier for the review panel to evaluate and rank proposals. The review panel will be a group of experts from diverse interdisciplinary backgrounds, such as economists, ecologists, and forest health experts, that are subcontracted by the Forest Service for a two-week period semi-annually to review the project proposals. When reviewing the proposals, they will prioritize projects that meet the revenue and forest health goals defined in the Act. They will also recommend which projects should be eligible for categorical exclusion from NEPA review.

The projects selected by the review panel will be submitted to the Chief of the Forest Service who is acting on behalf of Secretary of Agriculture. The

Chief of Forest Service will then give final approval to projects, including specifying which projects will be categorically excluded.

A regionally initiated plan is the most effective way to implement this Act because it would ensure the quantity and quality of the proposals reaching the Chief of The Forest Service's office are both warranted and feasible. This is because the local experts create the project proposals and they know best what their forests need. The review panel provides an independent layer of expertise in order to rank the best plans. Putting the bulk of work on the regional experts to create project proposals also minimizes the Chief's workload. However, this will mean that there will be more low-ranking proposals than if the Chief were simply proposing projects himself. This program design will also require additional staffing for the review panel. Ultimately, while there may be costs associated with the regionally initiated design, proposals from district rangers and forest supervisors will be the best for forest health, especially with the new legislative process favoring ambitious thinning activities.

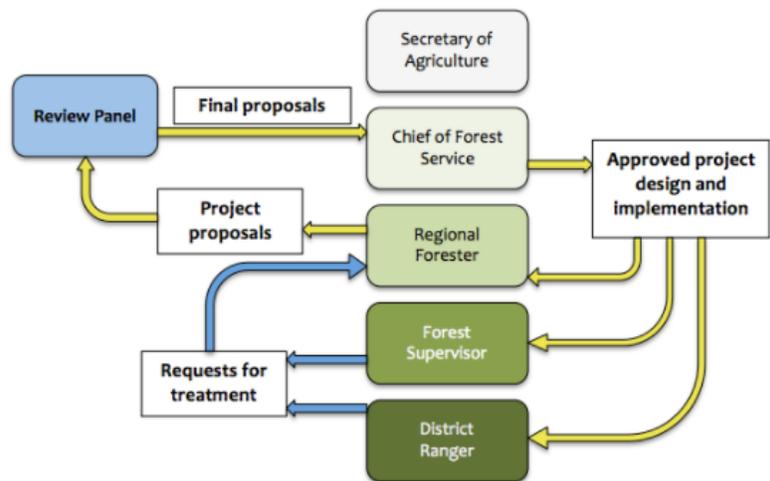


Figure 2. A Flow chart showing the flow of information in the proposed regionally initiated program design.

## CHANGES TO THE REVIEW PROCESS

The Act outlines two specific changes to the current way that the Forest Service reviews management plans. First, an expedited environmental review that includes changes to the judicial process and a newly implemented arbitration process. Second, the establishment of new categorical exclusion criteria that allow certain projects to bypass administrative and public review entirely.

### EXPEDITED ENVIRONMENTAL REVIEW

The Act mandates that the Forest Service establish an arbitration process as an alternative method to resolve objections to proposed management plans. In lieu of a judicial review, arbitration is for projects after an Environmental Assessment is completed and the action has drawn objection from the public. According to the Act, the following types of ecosystem restoration projects can be assigned to arbitration:

- (1) Projects developed through a collaborative process following the Healthy Forest Restoration Act of 2003
- (2) Projects identified in a community wildfire protection plan
- (3) For each applicable calendar year, not more than two other types of projects for each region of the Forest Service

To establish this program, the Chief of the Forest Service's Office will start by appointing at least 20 arbitrators. Due to uncertainty about how many projects will undergo arbitration each fiscal year—arbitrators will be utilized on an as-needed basis—the Forest Service will pay the arbitrators an hourly rate instead of a salary. The maximum costs of this process are, using the past average of 20 total reviews annually, roughly \$3 million. More detail, as well as average costs, can be found in Appendix B-4.

While the arbitrators will not be held to an annual evaluation, their proficiency will be assessed

if complaints are filed with the Forest Service more than once for the same arbitrator. Moreover, an Administrative Specialist to the Associate Chief in the Chief's Office will be hired to manage the arbitration process. This job will require contracting the arbitrators, handling organizational complexities of this new process, and making accommodations, as needed, for the individual arbitrations to take place. Following each arbitration, the Administrative Specialist will collect surveys from both the Forest Service and the objector to evaluate the arbitrator. This new staff position is needed to effectively implement the program design (for more detail, see: "Chief's Office Expansion" section below).

The process for projects that are considered eligible for arbitration starts after the project of interest first goes through an expedited environmental review which will take between 200 and 225 days. Currently, the Forest Service takes roughly 4.5 times as long ( $2.7 \pm 2.3$  years to finish the final EIS after filing a Notice of Intent; deWitt and deWitt 2008). The arbitration process itself is limited to about 125 days. Therefore, approximately 350 days would be needed to complete the review and any arbitration of proposed management projects.

The arbitration itself can last no more than 90 days, in which time the arbitrator will choose the Forest Service's management plan or the objector's. The arbitrator's chosen proposal will be implemented with no edits. Once arbitration ends, implementation may begin. The effect of the arbitration decision is binding, not considered a major federal action, and is not liable to a subsequent judicial review. While the arbitration process avoids the requirements of some major environmental regulations, it is expected to be quicker and less expensive for all parties than a legal challenge in court.

The Act also changes the requirements for the environmental reviews mandated by NEPA, effectively shortening the review process. Normally, the environmental review can take years to carry out due to the Environmental Impact Assessments (EIAs) and public review process required for federal actions, including ecosystem restoration projects. Under the Act, the Secretary will provide public

notice and an opportunity to comment for 30 days following an Environmental Assessment for each ecosystem restoration project. These new Environmental Assessments are shorter and less detailed than the full EIAs which are frequently required under NEPA. The environmental consequences of the project and a no-action alternative should be described in the assessment. Each assessment should be completed within 180 days of the project notice, and will remain under 100 pages. A supplemental analysis will not be required after completion. These changes collectively expedite the review process and limit the extent to which NEPA will apply to these projects. This expedited review will allow significantly more forest management, protecting critical forest resources like Revett Lake (Figure 3).



Figure 3: Revett Lake in Idaho Panhandle National Forest

Besides setting time and length limits, and the presentation of only two alternatives (the proposed action and a no-action alternative), the newly established expedited environmental review also requires a bond to be submitted before any objecting party can bring a legal challenge against the proposed action. This bond must be in the total amount of anticipated costs, expenses, and attorney fees. If the Forest Service wins the case, the expenses incurred by the service will be deducted from the bond. If the plaintiff(s) prevail, the bond plus interest will be returned. However, if the two parties agree to settle the case, expenses could be shared. The judicial review itself can comprise of an indefinite amount of time. The entire expedited environmental review

process is outlined in the calendar found in Appendix C-3.

## CATEGORICAL EXCLUSIONS

Categorical exclusions are defined by the Act as “immediate response” management activities utilized to address catastrophic events, pest infestations, salvage operations, and management of early successional forests. The management activity being considered for categorical exclusion must address at least one of at least one of these six conditions:

- (1) Addressing an insect or disease infestation
- (2) Treating land at risk of insect or disease infestation
- (3) Reducing hazardous fuel loads
- (4) Protecting a municipal water source
- (5) Maintaining, enhancing, or modifying critical habitat to protect the habitat from catastrophic disturbances
- (6) Increasing water yield

If a management activity is being categorically excluded to allow for expedited salvage operations, the activity is limited to a maximum of 5,000 acres or up to 15,000 acres if the project is developed through a collaborative process, a resource advisory committee, or a community wildlife protection plan. In addition, categorical exclusions being utilized for management of early successional forests have a restriction of 5,000 acres of management.

The projects that are selected for categorical exclusion are exempt from the environmental review process normally required under NEPA. This change implies there is to be no Environmental Impact Assessment or public review to be carried out for such projects. In place of environmental review, the categorically excluded projects will undergo an interagency consultation process, during which the Forest Service will consult with other federal agencies to ensure that every categorically excluded management plan conforms to the Endangered Species Act (ESA). This process is to last no longer than 30 days. The calendar for the

categorical exclusion process can be found in Appendix C-4.

## CASE STUDY: SPRUCE BEETLE INFESTATION

Grand Mesa, Uncompahgre, and Gunnison National Forests are three forests managed by the same Forest Service office in Southwest Colorado. In the past decade, these national forests have been suffering from an expanding spruce beetle infestation causing widespread spruce tree mortality (Figure 4), and a fungal infestation that is causing rapid aspen tree mortality.



Figure 4: Widespread spruce tree mortality due to a spruce beetle infestation in Gunnison National Forest (2013)

By 2015, approximately 30% of these three National Forests had been affected. The Forest Service proposed management activities to mitigate the impacts of this tree mortality. In order to implement this management, as with all forest management projects, the Forest Service has to comply with NEPA. This required an Environmental impact statement (EIS), which analyzed the impact of the proposed management project on the surrounding environment. It took three years to complete this review, which eventually would become an 800 page document.

After the EIS was completed there were eight objections to it which took five months to resolve outside of court. Another two years passed before the implementation on the ground could begin. Had any of the eight objections gone to a judicial review, this process would have taken even longer. During this

review period, the spruce beetle infestation was continuing to expand through the forests (Figure 5).

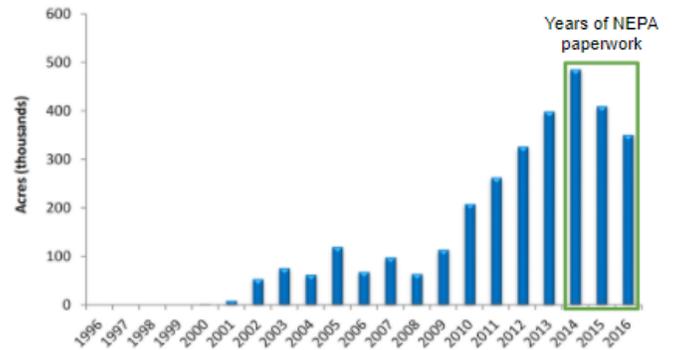


Figure 5: Spruce infestation growth over time in Grand Mesa, Uncompahgre, and Gunnison National forests. (Credit: USFS Aerial detection survey)

In the time it took to complete NEPA paperwork, an additional 1.2 million acres were infested across the National Forest lands. While it may look like the infestation is declining, this is partly due to the fact that there are fewer trees for the beetles to infect due to mortality caused by the infestation in previous years. If management had been conducted before they reached such extensive levels of infestation, the Forest Service could have mitigated the damage much more effectively.

The National Forest Ecosystem Improvement Act would create a categorical exclusion for projects such as this that would not be subject to review under NEPA. In this case, this beetle infestation could be used to support a categorical exclusion and management could have commenced within a year, as opposed to the three years seen here.

## PROJECT CREATION

The proposed program design introduced here requires changes to the process of how management projects are created and published. Following the passage of the Act, changes will be made in two key areas: creating a new review panel, and hiring additional staff in the Chief of the Forest Service's office.

## REVIEW PANEL

The review panel includes one director and eleven individual panelists. The director is a senior level employee, with roughly \$172,100 in annual salary. A more detailed outline of this salary can be found in Appendix B-2. The eleven individual panelists as well as an additional 30 reviewers in the preliminary review subcommittees will not be paid a salary. These panelists and reviewers are expected to be full time employees of either government agencies, academic institutions, or other forest health related organizations. The twelve people in the review panel will meet and need accommodations for four weeks every year, divided into two two-week sessions. In total, the review panel has an estimated cost of \$380,000 annually. An itemized budget of these costs can be found in Appendix B-3

Although the review panel is only 15 calendar days long, the preparation will take significantly longer. District Rangers and Forest Supervisors will collect data on their forests and formulate treatment action plans within a 30 day period. The assistant to the Program Specialist will then process and compile those regional proposals within ten days. Five groups of six reviewers, known as preliminary review committees, will then receive a number of these proposals to rank and send to the review panel. Subcommittees will have 45 days to evaluate those proposals, and panelists will have the following 14 days to review the subcommittees' ratings. After this preparation, the review panel will be held for two weeks in Washington, D.C. The Director of the review panel will synthesize the chosen proposals in the following week. Following this synthesis and preparation, the Chief will then approve or

disapprove, classify, and finally publish the proposals within a month. This process is outlined in the calendar shown in Appendix C-2.

## CHIEF'S OFFICE EXPANSION

Currently, the Chief of the Forest Service office has eight employees: the Chief of the Forest Service, the Associate Chief, the Chief of Staff, their three respective Assistants, a Program Specialist, and an Office Manager (Forest Service Organization, n.d). These employees aid in creating the budget for the Forest Service as well as overseeing policy compliance for the Regional Foresters. Since the proposed new review process requires a thorough deliberation of management proposals before they are subject to public and judicial review, the office will have to expand in light of added responsibilities. The proposed new structure of the Chief's Office is shown below (Figure 6).



Figure 6: Organizational chart showing the new structure of the Chief's Office. All proposed new hires are in orange boxes, and existing positions are in green boxes

The Chief's Office will need to manage both the newly created review panel as well as the new arbitration program. A newly instated director of the review panel will be added to the current structure; the detailed description of this position was described earlier. Much of the additional work allocated to the office of the Chief of the Forest Service will be logistical. These responsibilities will include arranging travel and lodging, disseminating and later collecting proposals, and scheduling arbitration. Currently, the Forest Service approves and implements about 100 projects per fiscal year (USDA

Forest Service, 2016). This indicates that there could be upwards of 200 proposals for each review cycle given the mandated increase in forest management described in the Act. This increased organizational work will be accommodated by hiring an Assistant for the Program Specialist. The other logistical tasks are seen as administrative support. Thus, an Administrative Specialist will be added and will report to the Associate Chief of the Forest Service.

The two assistants in the Chief of the Forest Service's office are middle level federal employees (GS 8 or 9), with \$49,771 and \$54,972 annual wages (FEDWeek, 2016). Annually, the cost of the two assistants is \$144,000. An itemized table of the Chief's Office personnel budget can be found in Appendix B-1.

Staff performance and evaluation will be managed, monitored, and evaluated depending on role. The three direct hires in the Chief's Office: the Director of the review panel, the Administrative Specialist, and the Assistant Program Specialist will be evaluated based on the US Department of Agriculture (USDA) department-wide performance structure. The USDA requires four steps to occur throughout the performance cycle with each federal employee: planning, monitoring, developing, and rating. Performance plans will be created during the first quarter of employment for each new employee. The indicators used to determine success are dependent in part on the position, but must be agreed on between employee and supervisor. Employee performance will be reviewed on an annual basis. All employees should strive to meet the exceptional rating in order to receive recognition, but at a minimum must meet the fully successful rating. During the annual review, staffing needs will be discussed to determine if workload has become unmanageable.

The process of hiring new employees begins in January, 2018. It will take approximately 125 calendar days for the Chief's Office to complete the hiring process. The Director of the review panel will take the most time to interview and hire, because this position requires significant expertise. This process will take the entire 125 day period. Filling the

positions of Administrative Specialist and assistant to Program Specialist will take a shorter amount of time: 110 days and 100 days respectively. The calendar for this hiring process is outlined in Appendix C-1. These new employees will be integral in facilitating the new process to help manage and prevent catastrophic events in National Forests, like the Whitewater-Baldy Complex Fire (Figure 7).



Figure 7: A photograph of the Whitewater-Baldy complex Fire in Gila National Forest, New Mexico (2012).

## CONCLUSION

The National Forest Ecosystem Improvement Act of 2017 and the program design proposed here for its implementation represent a major change in the current structure of how the Forest Service operates. Plans for management will be proposed, reviewed, and implemented much more quickly than in the past. Much of the above discussion represents the first fiscal year, and the immediate needs of the Forest Service following the passage of the Act. After the initial logistical needs are addressed, the outlined program design will be streamlined further. The general calendar for the first three years is presented below (Figure 8).

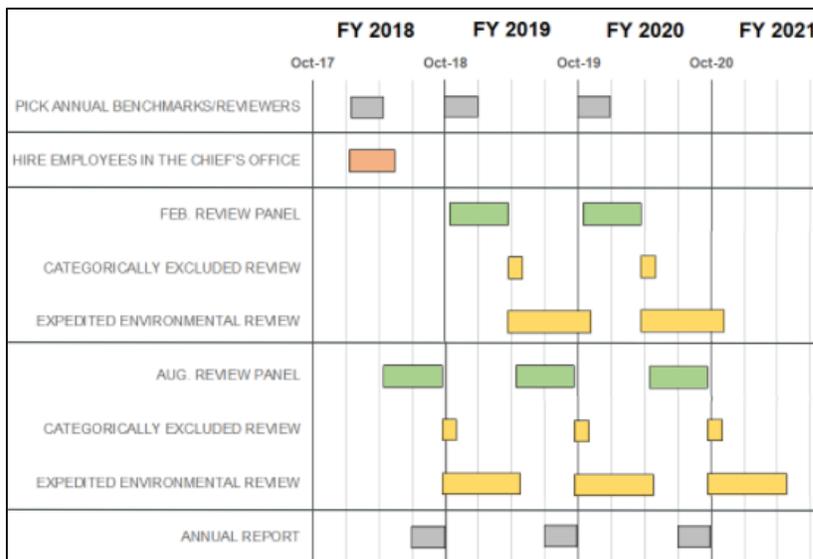


Figure 8: General implementation calendar for first three fiscal years following passage of the Act.

By streamlining the proposal, review, and implementation process, the Forest Service can begin to move away from reactionary forest management such as that done in response to catastrophic events like wildfires and insect infestations, and begin preventative management. With increasing effects of climate change, as well as other environmental factors outside of Forest Service control, proactive management is becoming ever more important to the health of National Forests. Both the categorical exclusions, as well as expedited environmental review process will ensure that the Forest Service spends less time and money getting plans approved,

and handling objections in court. Simultaneously, the Forest Service will be earning significantly more revenue through the expansion of commercial thinning activities in National Forests. This revenue can offset expansions of the Forest Service budget that would be required to support the increased level of management activities that will be necessary following the passage of the Act.

Notably, this new structure eliminates a significant portion of the opportunity for public review of and objection to Forest Service management proposals. By forgoing this, the Forest Service saves significant time and money, but will not be subject to the same public scrutiny that they are today. Management plans involving significant prescribed burning and commercial thinning activities will likely be implemented with much more regularity. NEPA and the Endangered Species Act were enacted to mitigate the negative environmental impacts of federal management activities, but have created an expensive bureaucratic system that can prevent efficient forest management. However, moving forward, the Forest Service and its constituents will need to make sure that all management plans are indeed in the best interest of forest health. Though circumventing protective environmental legislation can help avoid excessive time delays between plan proposal and implementation, there is an increased risk of negative environmental impacts that were not considered. It is for this reason that the suggested program design is regionally initiated, as the foresters who live and work in their forests know what is best for that forest's health. By choosing the correct representatives for the review panel and review subcommittees, the Forest Service can improve the chances that this Act will aid in creating truly successful and proactive forest management plans, while simultaneously increasing the revenue of the Forest Service and the health of National Forests across the country.

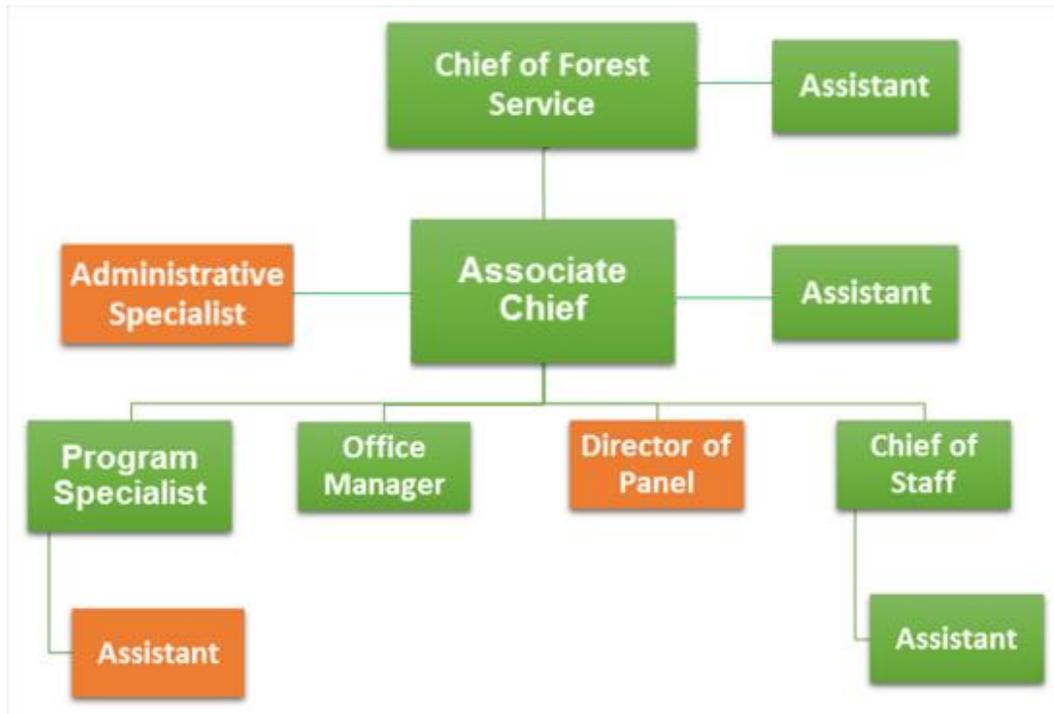
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## APPENDICES

### APPENDIX A: STRUCTURE OF CHIEF'S OFFICE



*The structure of the Chief of the Forest Service's office following implementation of the program design. Existing positions are in green boxes, and new additions are in orange boxes. The director of the review panel is a new member of the office, but one whose responsibilities will be almost entirely involved in the organization, implementation, and success of the review panel. Budgets for these positions can be found in Appendices B-1 and B-2.*

## APPENDIX B: BUDGET

**TABLE B-1: CHIEF’S OFFICE PERSONNEL BUDGET SALARIES WERE CALCULATED BY USING AVERAGE SALARIES FOR GS 8 AND GS 9 EMPLOYEES RESPECTIVELY**

<b>GS Annual Rate</b>	\$49,771 (Assistant to Program Specialist) + \$54,972 (Administrative Specialist to the Associate Chief)
<b>Health Insurance</b>	+30%
<b>Basic Benefit Plan</b>	+1%
<b>Thrift Saving Plan</b>	+1%
<b>Federal Employee Retirement Savings</b>	+5%
<b>Total</b>	\$144,000

**TABLE B-2: DIRECTOR OF REVIEW PANEL BUDGET. THIS POSITION WILL BE HOUSED IN THE CHIEF OF THE FOREST SERVICE’S OFFICE. THIS IS A FULL-TIME SENIOR POSITION.**

<b>Annual Rate</b>	\$172,000
<b>Health Insurance</b>	+30%
<b>Basic Benefit Plan</b>	+1%
<b>Thrift Saving Plan</b>	+1%
<b>Federal Employee Retirement Savings</b>	+5%
<b>Total</b>	\$236,000

**TABLE B-3: REVIEW PANEL TOTAL COSTS. TOTAL AMOUNTS WERE CALCULATED BY MULTIPLYING AVERAGE COSTS FOUND VIA MTA, AMERICAN AIRLINES, AND HILTON BY 12 FOR EACH MEMBER OF THE REVIEW PANEL AS WELL AS THE DIRECTOR. \$3,000 OF MONEY IS RESERVED FOR ANY UNFORESEEN EXPENSES AND WILL ALSO COVER ANY EXPENSES ASSOCIATED WITH THE PRELIMINARY REVIEW SUBCOMMITTEES.**

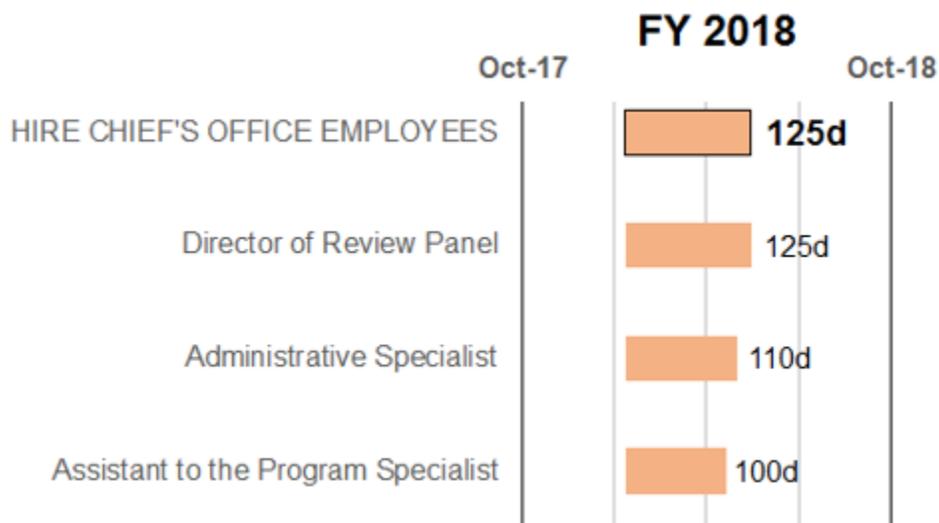
<b>Cost</b>	<b>Average Amount</b>	<b>Total Amount</b>
<b>Average Flight</b>	\$366	\$4,400
<b>Average Metro/Taxi</b>	\$200	\$2,400
<b>Hotel, 28 days</b>	\$200/day	\$67,000
<b>Meals, 28 days, 3 x day</b>	\$30/meal	\$30,000
<b>Miscellaneous needs</b>	\$3,000	\$3,000
	<b>Total</b>	<b>\$107,000</b>

**TABLE B-4: ARBITRATION ESTIMATED COSTS. TOTAL COST FOR EACH CATEGORY WAS CALCULATED BY USING THE PAST AVERAGE OF 20 CASES BEING OBJECTED UPON. AVERAGE COSTS WERE CALCULATED BY USING AN AVERAGE OF ROUGHLY 60 DAYS PER CASE. MAXIMUM COSTS WERE CALCULATED USING THE MAXIMUM OF 90 DAYS OUTLINED IN THE BILL.**

<b>Cost</b>	<b>\$ Amount</b>	<b>Total Cost (20 Cases)</b>
Filing Fee	\$1,700	\$34,000
Hearing Fee	\$500	\$10,000
Arbitrator Compensation	\$250/hour, max: \$1,600/day	\$288,000
Average Cost per Case	\$102,000	\$2,040,000
Maximum Cost per Case	\$146,200	\$2,924,000

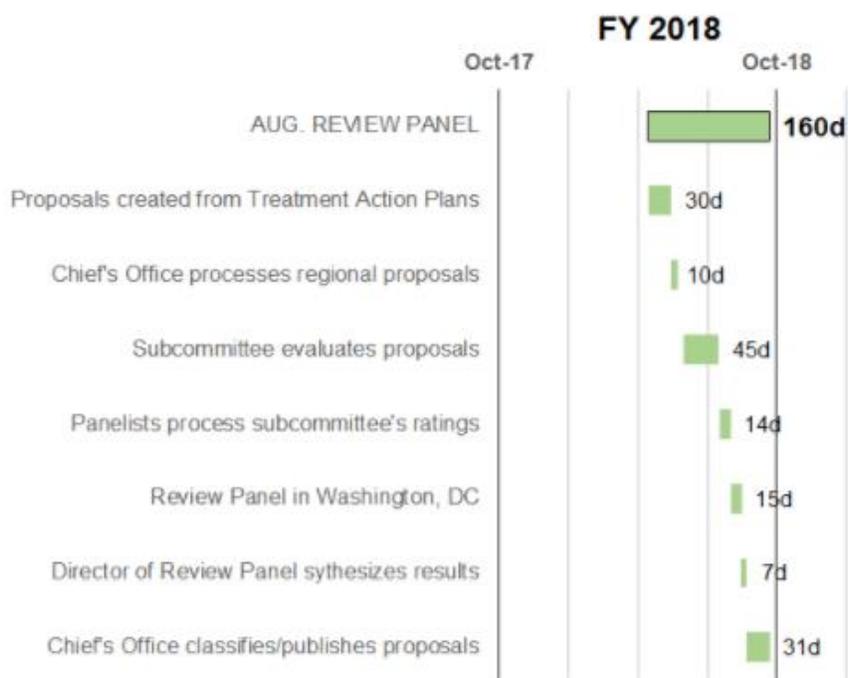
## APPENDIX C: CALENDARS

**FIGURE C-1**



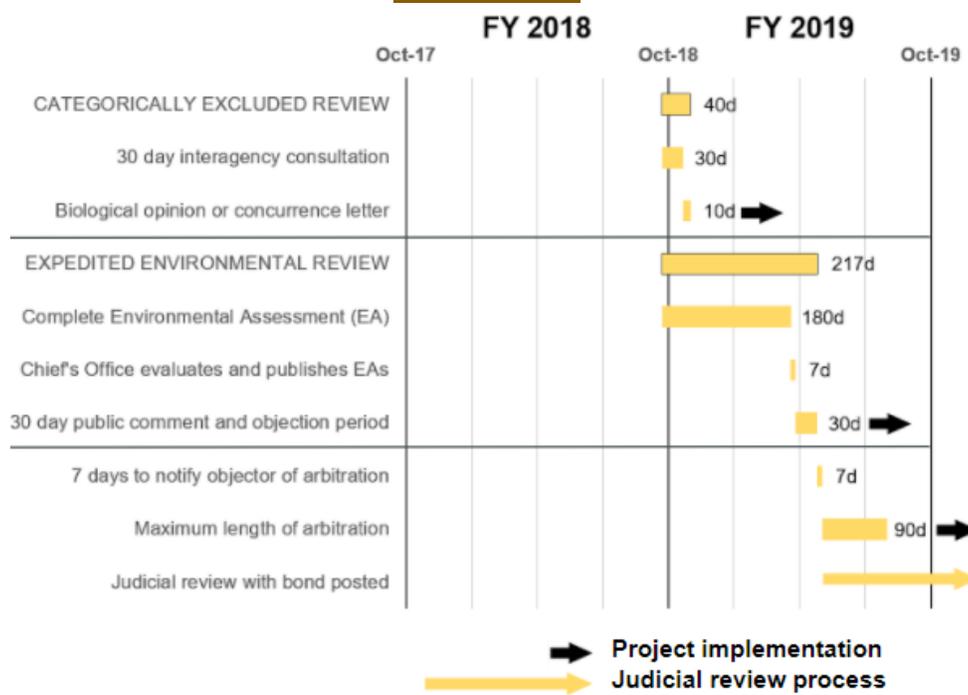
*A calendar showing the time allotted for new additions to the Chief's Office to be interviewed and hired. This hiring process can all happen simultaneously. Two extra weeks were given to the director of the review panel process, as this position requires the most expertise. In total, this process will take roughly 125 days, and will only occur during the first fiscal year of program design implementation.*

**FIGURE C-2**



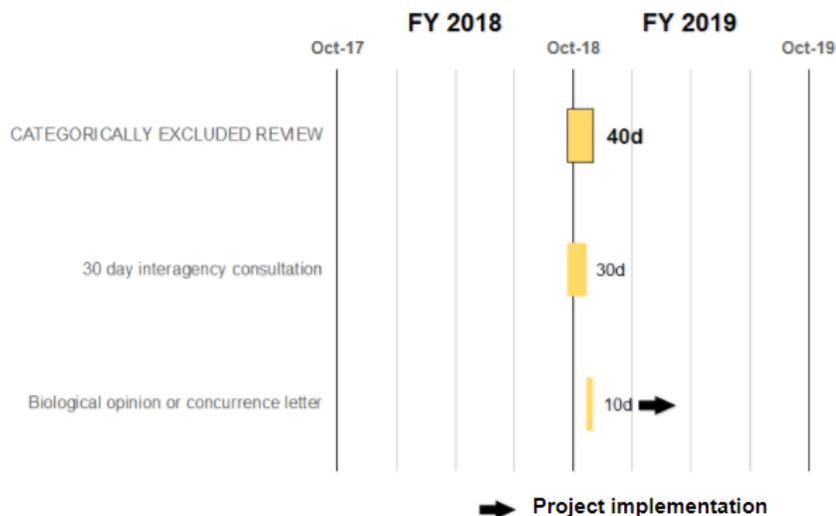
*A calendar outlining all the timelines for the activities associated with the first review panel occurring in August of fiscal year 2018. A similar timeline will exist for all future review panel processes.*

**FIGURE C-3**



*A calendar outlining the new expedited environmental review, including categorical exclusions, expedited reviews, and arbitration processes. Black arrows represent project implementation opportunities. The yellow arrow represents the indeterminate length of a judicial review process should there be a public objection to a non-categorically excluded management proposal.*

**FIGURE C-4**



*This calendar is an enlarged version of the categorical exclusion portion of the calendar found in Figure C-3. Notice the 30-day interagency consultation and 10 day biological opinion or concurrence letters are the only requirements before project implementation. This means there is a maximum of 40 days before implementation of a categorically excluded management project.*