USFS Special Uses (2024)

Recommendations

July 2024

# Overview

Forest Service engaged 18F to research and make recommendations on how to proceed with developing a digital permitting system for special uses.

18F interviewed authorization proponents and permit administrators in order to understand the current special-use permitting system and identify opportunities for improvement. Based on insights gained through these interviews and other research, we have prepared a summary of our initial research findings, risk analysis, and recommendations.

# Our work so far

In the course of our discovery work, we have:

* Created a **journey map** to learn about how permit administration works
* Collaborated in **exercises with Forest Service Special Use staff** to leverage their subject-matter expertise
* Interviewed **Forest Service stakeholders** to discover opportunities for improvement
* Conducted **desk research** to learn about the history of digital permitting at Forest Service

Additional detail on each of these research activities is provided below.

## Journey map

[Journey mapping](https://guides.18f.gov/methods/decide/journey-mapping/) is a research technique for understanding the interactions involved in delivering a service. 18F used journey mapping to explore special-use permit administration from the perspective of both the authorization proponent and the permit administrator.

Working with Forest Service Special Use subject-matter experts (SMEs), we identified a “main line” through the authorization process for various different special uses: in other words, commonalities that apply to all permit types. This in turn allowed us to distinguish the parts of the process where Lands and Recreation permit types deviate from each other.

An image of the journey map is provided in Appendix #1.

## Exercises with Special Use staff

After working together to refine the journey map, 18F collaborated with Forest Service subject-matter experts in additional research exercises.

* **Stakeholder mapping** is an exercise to identify strategically and tactically important stakeholders and classify them according to their level of interest and influence on the work. This exercise informed how 18F communicates with stakeholders—for example, who receives weekly shipping emails and who is invited to which meetings.
* Post-mortem exercises are conducted following the completion of an engagement. By contrast, a **pre-mortem** exercise is conducted at th*e beginning* of an engagement to mitigate risk. By imagining what future events might jeopardize the development effort, we can uncover and discuss potential threats with the appropriate stakeholders.
* In product management, a **problem statement** is a foundational document that defines the specific problem a product is attempting to solve—and further, what problems the product is *not* attempting to solve.

## Stakeholder research

18F interviewed 16 research participants, with as many as 22 more Forest Service staff and authorization proponents to come.

We used a [semi-structured interview](https://guides.18f.gov/methods/discover/stakeholder-and-user-interviews/) technique, followed by debrief sessions to extract observations from each interview. Over the course of several interviews, meaningful patterns and ideas begin to emerge. In an [affinity mapping](https://guides.18f.gov/methods/decide/affinity-mapping/) exercise, we grouped similar observations together to better understand the project and its context.

This approach differs from [statistical sampling processes](https://www.nngroup.com/articles/interview-sample-size/), which typically deal in larger datasets.

More details and representative quotes from our interviews are in a linked document in Appendix #1.

## Desk research

18F has been involved in more than five engagements with Forest Service over the last eight years, each of which has generated documents and recommendations. During the course of stakeholder research, interviewees provided additional Forest Service documents.

We reviewed this material to understand the steps Forest Service has already taken toward online permitting, some beginning even earlier than 2016. A timeline of these efforts is provided in Appendix 2.

# Findings

It is possible for Forest Service to develop an online permitting system for members of the public to apply for various special-use authorizations.

We know that it’s possible for Forest Service to build such a system because Forest Service has done it before. Between 2017 and 2021, Forest Service built, piloted, and launched the Open Forest permitting system using cloud technology, agile development practices, and user-centered design. Even today, ePermits, a descendant of the Open Forest system, is providing online firewood permitting services.

However, this previous success has not been a guarantee of ongoing effectiveness or institutional ability to scale. Our research suggests reasons why this might be the case—and possible ways forward.

## Findings on the special-use authorization process

### The relationship between the permit administrator and the authorization proponent is the heart of the authorization process. Making this relationship stronger makes the process better.

We heard from many permit administrators that the most important factor in their work was being in touch with authorization proponents. Many permit administrators communicate directly with authorization proponents, in interactions ranging from email exchanges to face-to-face meetings. Permit administrators’ individual knowledge of local conditions and context can “make or break” proposals.

### Authorization proponents often need help assembling their proposal package. Providing assistance can be time-consuming.

While some authorization proponents have been through the process before and have all of the necessary material, others need help every step of the way. Much of permit administrators’ work is in personally helping these proponents collect and prepare documents to advance their proposals. Permit administrators told us that proponents struggle with one-size-fits-all forms, and that helping proponents navigate the process takes up a substantial amount of time.

### Permit administrators have limited time and resources. Keeping up with demand can be difficult.

Permit administrators report that they don’t have adequate time or resources to easily handle the workload of processing proposals, or to respond to every request from the public with equal attention. Permit administrators can face dual challenges: individual proposals that are high in complexity, as well as a large overall volume of proposals.

### When demand outstrips resources, backlogs swell. Permit administrators burn out; authorization proponents get frustrated or abandon the process.

Authorization proponents are often frustrated by slow processing times that result from large backlogs. As a consequence, some may proceed with their intended use without applying for a permit at all. These unpermitted uses may be unsafe or damage natural resources. Additionally, large backlogs can have a negative impact on the health and job satisfaction of permit administrators who struggle to keep up with demand.

### Permit administrators want better tools. Mapping, in particular, came up often in conversation.

Permit administrators want tools to streamline their work, and are especially interested in mapping. They report spending a lot of time helping authorization proponents specify precise geographic locations for their proposals—information that’s necessary for later screening and processing. An online tool to help authorization proponents “put a pin” on a map at their proposed location was suggested by participants as a useful place to start.

### Forests are solving these problems on their own. There are some innovative solutions.

Individual forests are developing tools to solve their own problems. We heard about “splash pages”, frequently asked question pages, and checklists that forests have developed and published online to help authorization proponents navigate the proposal process with less help from permit administrators. Some of these innovations could inform a national effort to produce better tools.

### As forests solve on their own, the authorization process diverges. Proponents can have inconsistent experiences from forest to forest.

Though some individual forests’ solutions are innovative, there is a consequence to the inconsistency in processes and information across units. Permit administrators report that inconsistency is often hard on authorization proponents: authorization proponents may develop expectations based on interactions with one Forest Service unit, only to find that their experience is different when interacting with another unit. Some permit administrators also said they wanted more consistent policy guidance and standardized forms.

## Findings on previous attempts to improve special-use digital permitting

### Past digital permitting efforts have struggled to establish permanent product ownership. They have failed as a result.

Product owners are responsible for articulating the needs of product users and ensuring these needs are reflected in software development. Product owners are best chosen from subject-matter experts: in the case of special-use digital permitting, that means permit administrators, who need time and resources to learn agile software development and user-centered design practices. In past efforts, details and “Not to Exceed” (NTE) or “other duties as assigned” staffing has proven insufficient for product ownership of a successful, user-centered software system.

### Failure to deliver past projects has created skepticism about digital modernization efforts.

This is not the first time Forest Service has attempted to modernize the software involved in permitting. Recreational special-use permits for temporary outfitters and guides were included in the original Open Forest pilot research in 2016. Forest Service staff were aware of these efforts and excited about potential improvements in the experience. SUDS modernization efforts have also been promised to staff but have yet to appear.

Interview participants expressed various emotions about Forest Service failures to deliver improvements in digital experience, from jaded to pessimistic.

### Most folks expressed frustration or confusion with the pause of SUDS next gen. “Just launch it” was a refrain we heard often.

Agile software development uses continuous feedback from users to confirm that the system being developed actually works for the people using it. This feedback informs an incremental development process—meaning that the product team provides features and value to users early and frequently, as opposed to waiting for a single launch.

Delivering incremental value in this way requires careful architectural and product design decisions that allow the system to remain usable throughout the development process. Without planning ahead to deliver incremental value, product development can stall, as in the case of SUDS next gen.

### The launch of Special Forest Product E-Permits suggests a possible path to production.

Although previous attempts to develop a special-use digital permitting system have not delivered as intended, elements of those efforts are still in use. Based on the foundational work of Open Forest in selling Christmas tree permits, and following recommendations from subsequent 18F engagements, Special Forest Product E‑Permits ([epermits.fs2c.usda.gov](http://epermits.fs2c.usda.gov)) now allows users to purchase firewood permits for five forests online.

The authorization processes for special forest products and special uses are not the same, and a special-use proposal cannot be processed like a typical online purchase. However, a special-use digital permitting experience, like E-Permits, could enable members of the public to begin the authorization process through a digital “front door.” In addition, E-Permits is an example of a successful effort using the same set of agile, user-centered techniques and approaches to software development that 18F recommends for a special-use digital permitting system.

# Risk analysis

In the effort to develop a special-use digital permitting system, there are risks to both action and inaction.

If Forest Service does not provide better tools for connecting authorization proponents and permit administrators nationwide, there is a risk that ongoing attempts to solve the problem at the individual forest level will exacerbate the inconsistency of the authorization proponent experience.

On the other hand, if Forest Service does attempt to provide these tools, that effort will be also subject to risk. Some possible scenarios are described below.

## High-risk scenarios

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### No product owner

Staffing product owners who are experts in permitting processes is essential to a successful agile, user-centered development process. If Forest Service cannot staff a permit administrator full time to the role of product owner—and support them in learning that role for a year or more—then there is a substantial risk that the effort will fail to deliver a useful product for Forest Service staff and the public.

### Executive deprioritization

Permanent product ownership requires dedicated resources, which in turn require a sustained executive commitment to improving user experience. If waning interest or support from executives results in a loss of resources for product development, there is a substantial risk that the effort will fail to deliver a useful product for Forest Service staff and the public.

### Insufficient resources to scale up

In a successful agile software development effort, a product owner and product manager develop a roadmap to deploy a product, improve it incrementally, and scale up—for example, by adding forests, use types, and features over time. Without the product development expertise to develop a roadmap and adequate time to execute it, there is a substantial risk that the effort never advances past the initial deployment, and the initial investment will fail to deliver a useful product for the majority of Forest Service staff and the public.

## Mitigating risk

If Forest Service attempts to improve special-use digital permitting but does not succeed in actually delivering improvements at scale, it may further alienate the permit administrators who are the most important allies of this work. 18F’s research suggests that the single most effective action Forest Service can take to mitigate this risk is to staff a full-time product owner.

Failure to staff a product owner limits the value that a software development effort can deliver. This weakens the business case for continuing the work, causing executives to lose confidence and put user-centered, agile software development efforts on hold. As a result, Forest Service staff and the public may see no progress toward the digital services that they have been asking for.

# Recommendations

Our research findings and risk analysis inform the following recommendations for how Forest Service should proceed with improving special-use digital permitting.

## Launch SUDS NextGen

Interview participants were uniformly hungry for the modernized administrator experience in the new SUDS NextGen system. Many of the challenges staff told us about will be addressed by releasing this system to production. Agile software development practices can also be applied to the final stages of the SUDS NextGen process: for example, support a product owner, start with small steps to learn, and plan for scaling.

## Assign a full-time product owner

To directly mitigate the risks associated with not having a product owner for software development projects, Forest Service should assign one staff member as product owner for this effort as that person’s full-time position. Alternative approaches—including temporary “Not to Exceed” (NTE) details, “other duties as assigned”, and requiring owners to oversee multiple projects—will not allow the product owner enough time and attention to learn their role and succeed in the development effort.

## Start building an online “front door” for broadband permits to serve specific user needs

Based on our journey map, special-use permits of many different types share many user needs and aspects of the proposal process in common. Therefore, using funding available specifically for improving the broadband permitting experience can deliver value for the entire Special Uses program. In addition, the broadband team has already made innovations in using a national form to help authorization proponents complete a proposal and send it to the appropriate permit administrator.

Development of this “front door” for broadband permits should begin by focusing on a single, specific need identified by authorization proponents and permit administrators. Mapping and location information is one example of where this effort could start— but our research identified multiple user stories that the product owner could choose to prioritize within the development process.

## Develop a plan to scale in forests, features, and use types

In addition to the narrowly focused “front door” described in the previous recommendation, Forest Service should make a plan for scaling up the effort to include more forests, use types, and user features. This plan, or roadmap, mitigates the risk that the investment made during the initial, narrowly focused deployment will not deliver benefits to users nationwide. It’s important to note that this roadmap shouldn’t (and can’t) be specific about dates at first, because knowledge of how quickly development can proceed will come primarily from the first stage of development.

## Build on what works: E-Permits, broadband national intake, permit administrators

The E-Permits system for online firewood permitting is an example of successful agile and user-centered software development practices. The effort to develop special-use digital permitting should initially leverage the same technical architecture and processes already in use on that team.

The broadband program has already done work on a nationwide intake form. That work can be leveraged using these agile and user-centered software development practices.

The permit administrators we worked with during our research are a tremendous resource for innovation, analysis, prioritization, and expertise on permitting. Any effort to improve special-use digital permitting must be based first and foremost upon their skill and understanding of the process.

# Conclusion

Developing an online permitting system for special uses is one piece of the larger process of Forest Service becoming a digital agency—or more specifically, a land-use agency in a digital world.

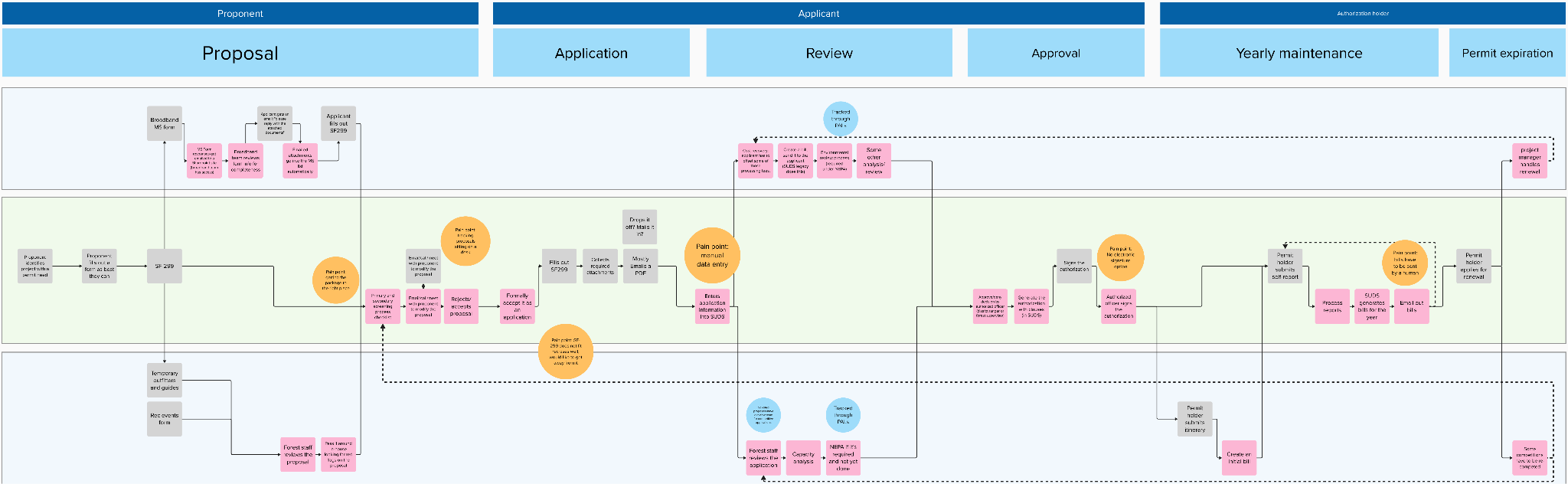
18F finds there is a significant opportunity for Forest Service to improve the authorization process for special uses. Developing modern tools for this process would ease the burden on permit administrators and improve the user experience of authorization proponents. Beyond this, success in the effort would also serve as an example of how Forest Service business units and the Forest Service CIO can work together to deliver software systems that serve the needs of the public in a digital era.

To achieve these outcomes, we recommend that Forest Service embrace agile software development practices and cross-functional product teams, in which subject-matter experts participate directly with developers—and user-centered design, in which product teams ensure that they deliver value to users by researching user needs.

Forest Service is familiar with these practices and is well-positioned to execute on them, but there is a missing piece: a permanent product owner to steward the product. Lack of a permanent product owner proved fatal to two past projects (Open Forest and a first attempt at firewood permitting). If Forest Service can fund and fill a product owner position, all of the pieces will be in place for success.

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# Appendix 1



[Journey map](https://app.mural.co/t/gsa6/m/gsa6/1714671953657/1dad887ddea92e6f4812cae71111281343fe3094?sender=u141b315a121a2d6344993414)

[Research insights with supporting evidence](https://docs.google.com/document/u/0/d/1psbo-U_6Tb5lbqKV--ubYU_HWoqjOECi-Ei0sVqeEsg/edit) (or separate PDF)

# Appendix 2

## History of product ownership issues in 18F/USFS digital permitting engagements

### Open Forest

**Summary**: 18F partnered with USFS to develop the Open Forest platform from August 2016 to June 2019. From June 2019 to March 2021, USFS stewarded Open Forest on their own.

* Late 2018: The first public release of the Open Forest platform. This was a limited pilot that allowed members of the public to buy Christmas tree permits online for four national forests.[[1]](#footnote-0)
* April 2019: Risk around product ownership flagged.[[2]](#footnote-1)
* June 2019: 18F fully handed the keys to Open Forest over to USFS.
* November 2019: USFS expanded the Christmas tree pilot to cover 13 national forests.[[3]](#footnote-2)
* June 2020: PO risk flagged again.[[4]](#footnote-3)
* July 2020: It’s announced that Christmas tree permitting will move over to recreation.gov.[[5]](#footnote-4)
* March 2021: The decision is made and communicated to shut down Open Forest.[[6]](#footnote-5)

### Firewood Permitting

**Summary:** 18F again partners with USFS to explore timber contracting and permitting. The engagement lasts from June 2019 until November 2020.

* September 2019: 18F issues a path analysis for timber contracting and permitting, which includes a recommendation to build off of the foundational work of Open Forest.[[7]](#footnote-6)
* June to October 2020: 18F team engages with pilot forests, sets up staging environment and begins initial technical integrations.
* August 2020: 18F team learns that a new product owner will need to be selected and flags the change as a risk.[[8]](#footnote-7)
* October 2020: Existing USFS Product Owner rolls off engagement. There is hope that a new PO can be brought on quickly.[[9]](#footnote-8)
* November 2020: The team decides to pause the engagement while the PO position is filled.[[10]](#footnote-9)
* PO position doesn’t get filled, work doesn’t restart.

# Appendix 3

## Review of national forest websites

**What we did:** We performed a cursory review of the websites for ~15% of the 154 national forests to better understand how individual forests curate their special uses permitting digital presence.

**What we learned:** While there is consistency in the overall design of national forest websites, there can be significant variance in layout, information architecture, and in content design. Some forests have fairly limited information, and ultimately instruct permit seekers to simply reach out over email or phone for more information (examples: [1](https://www.fs.usda.gov/detail/florida/passes-permits/?cid=fseprd1031294), [2](https://www.fs.usda.gov/main/hmnf/passes-permits/event-commercial), [3](https://www.fs.usda.gov/detail/ltbmu/passes-permits/?cid=fseprd540299), [4](https://www.fs.usda.gov/main/nebraska/passes-permits/event-commercial)).

Some forests have more robust digital presences and appear to be problem solving on their own. Some examples of innovation we observed:

* **Some forests have instructions and/or checklists for completing applications.** For instance, [this forest](https://www.fs.usda.gov/detail/klamath/passes-permits/event-commercial/?cid=fseprd1074761) lays out a robust list of documents that folks may need to provide to their permit administrator when seeking a permit. The list includes deeper links into more forest-specific content that explains concepts like mapping, insurance, and nondiscrimination requirements. [This forest](https://www.fs.usda.gov/main/angeles/passes-permits/event-commercial) takes a similar approach but with all information contained on one page. [This forest](https://www.fs.usda.gov/detail/psicc/passes-permits/event-commercial/?cid=fseprd968420) gets more specific around photo and filming requirements but puts their checklist in a [PDF](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd968414.pdf) (as does [this forest](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd526456.pdf)). Other forests, like [this one](https://www.fs.usda.gov/detail/flathead/passes-permits/other/?cid=fseprd646036), put lots of information in accordion web components.
* **Some forests have custom forms.** [This forest](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd1051477.pdf) has a forest-specific film and photography request form. [This forest](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd1159333.pdf) has a forest-specific form for drone usage. Other forests (like [this one](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5375328.pdf) and [this one](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd881826.pdf)) seemed to have region-specific forms.
* **Some forests have other general forms, but they weren’t consistent.** For instance, we found [FS-2700-3b](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5375326.pdf), [FS-2700-3c](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5377992.pdf), and [FS-2700-3f](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd645840.pdf). But we also found these variants of [FS-2700-3b](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd1151102.pdf) and [FS-2700-3c](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd1151105.pdf).
* **We also found a few mapping tools.** [This forest](https://www.fs.usda.gov/detail/klamath/passes-permits/event-commercial/?cid=fseprd1080992), for instance, has step-by-step instructions that encourage permit seekers to use [this tool](https://www.fs.usda.gov/ivm/) to create their map.

Overall, we see an opportunity to learn from and leverage these forest-level innovations to empower other forests. We also see an opportunity to create information architecture and content design standards that could enable a more consistent user experience across forest websites. The recent OMB [memo M-23-22](https://www.whitehouse.gov/omb/management/ofcio/delivering-a-digital-first-public-experience/) specifically calls out duplicative content and making content “authoritative and easy to understand”. Our next step is to perform a more complete audit and analysis of the forest websites and make recommendations.

1. [Christmas tree permits](https://github.com/USDAForestService/fs-open-forest/wiki/Christmas-tree-permits) [↑](#footnote-ref-0)
2. Open Forest Briefing (April 19, 2019) [↑](#footnote-ref-1)
3. [Open Forest 2019 Season Retrospective](https://github.com/USDAForestService/fs-open-forest/blob/master/docs/2019%20Christmas%20Season%20Retrospective%20Open%20Forest.pdf) [↑](#footnote-ref-2)
4. Open Forest Briefing (June 22, 2020) [↑](#footnote-ref-3)
5. [Expanding the Online Solution for Forest SErvice Christmas Tree Permits Through Recreation.gov](https://github.com/USDAForestService/fs-open-forest/blob/master/docs/ChristmasTreePermit_LetterFromChiefsOffice_20200706.pdf) [↑](#footnote-ref-4)
6. [Open Forest Investment Closeout](https://github.com/USDAForestService/fs-open-forest/blob/master/docs/Open%20Forest%20FInal%20Closeout%203_2_21%20.pdf) [↑](#footnote-ref-5)
7. Timber Contracting and Permitting Path Analysis (September 13, 2019) [↑](#footnote-ref-6)
8. Timber permitting E&I // NRM Path analysis - Weekly Ship August 21, 2020 [↑](#footnote-ref-7)
9. Timber permitting E&I // NRM Path analysis - Weekly Ship October 2, 2020 [↑](#footnote-ref-8)
10. [Timeline and deliverables](https://github.com/USDAForestService/USFS-timber-permitting/wiki/Timeline-and-deliverables) [↑](#footnote-ref-9)