U.S. Forest Service

ePermitting/ Christmas tree permitting options

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18F

Summary

Over November and December 2016, 18F conducted interviews and onsite observations of the existing Forest Service Permitting process. Based on this research, we propose simultaneously moving forward on two fronts:

1. Building a prototype Christmas tree ePermitting frontend that allows the public to print paper permits (with several special attributes for enforcement) at home for Christmas tree permits
2. Building a simple script that can reconcile existing reports from TIM and FMMI
3. Making several small changes to TIM and FMMI to streamline this and other special forest products processes

Key findings from interviews and observations

We conducted interviews with people involved in the Christmas tree program at our four pilot forests, Araphoe-Roosevelt, Mt. Hood, Flathead and Pike National Forests. We then conducted in-depth observations of Christmas trails and backend processes at Mt. Hood and Araphoe Roosevelt. In-person Christmas tree sales work well for the people who meet Forest staff (and we witnessed little demand for permits outside normal hours), but most backend processes remain tedious and difficult. **Christmas tree ePermitting's key opportunity is circumventing or automating the backend process of issuing permits (and making permits somewhat more accessible), while its largest risk is delivering the same quality experience in-person permittees receive.**

In specific, we learned that:

- **The existing transaction and reconciliation processes are relatively fast.**
    - Most visitor station interactions lasted 2-3 minutes and the wait was no longer than 5 minutes. Most field interactions are 20-30 seconds and the wait was no longer than 7 minutes.
    - The end-of-the-day process was largely counting cash and comparing revenue to permit counts and took 20-30 minutes or so (in both the field and VIS).
    - We didn't note much frustration amongst the waiting public.

- **Most of the public's questions (especially in the visitor center) weren't about the permit transaction, but about the "where's, when's and how's" of cutting a Christmas tree.**
    - For the most part, people really enjoy themselves while purchasing permits and cutting trees. We registered very few problems or public frustration with the process.
    - In the visitor information station, and especially on the phone, many people wondered where and when they could cut trees. (The station phones rang off the hook with questions like these.) Folks wondered often about the weather and here to put the permit. A few wondered about community events accompanying the sale, the appropriate width of their tree, whether their vehicle could make it up the road, given winter conditions. They weren't frustrated to have these questions, but it was remarkable how many did.
    - It's also worth noting that the large Christmas tree sale at Araphoe-Roosevelt is as much a community benefit as compliance mechanism. The surrounding towns benefit economically and socially from the existing, low tech event.
- **Although the end of the day cash counting process seems pretty standard, the other business process is tedious and duplicative.**
    - Several numbers have to be entered into both TIM and POSS-related forms.
    - Much of what's entered into TIM could be gathered from POSS transactions.
    - The cash deposit process is multi-step, complicated, unreliable and makes many frontliners uncomfortable.
    - There is no automated way to reconcile Christmas tree permit sales across TIM, POSS and FMMI. In fact, there's no way to make corrections in POSS or TIM. After manually comparing *every single permit entry from the year for the forest in these systems*, the data manager has to modify TIM to be incorrect to resolve any mistakes. This means TIM's data is often slightly incorrect.
- **Law enforcement officers and forest protection officers needs permits to accomplish three "jobs," but none of them require paper a paper permit.**
    - Permits need to be one time use. (People cannot use a permit to get multiple trees.)

    - They need to know a permit is authentic.
    - They need to be able to assess whether someone has a permit from a distance (although it's not as important to be able to assess whether it's authentic from a distance).

- **In reality, Christmas tree compliance actions are rare; most LEOs and FPOs view Christmas tree encounters as "educational" and rarely issue citations.**

Building a good foundation for ePermitting

Our research surfaced several changes to TIM, POSS and FMMI that could address much of the tedium of issuing most special forest product permits (including Christmas trees). Implementing these changes would make ePermitting simpler and more stable, as well as improve the in-person permitting process for the public, frontliners and data managers. We believe these changes would accomplish many benefits of a TIM redesign for special forest products at a fraction of the cost.

In specific, we recommend:

- **Configuring POSS to automatically create TIM permits for certain transactions.** Some forest products, like Christmas trees, don't require a customer's contact information or a printed permit, so all the information entered into TIM duplicates what's entered in POSS. If Christmas tree permits were a product type in POSS, selling a Christmas tree permit could automatically create a TIM permit (one TIM permit per one tag sold). This configuration would not require TIM to collect any additional information avoid the whole manual permitting process.
- **TSA reporting portal should query FMMI to display whether each TSA has a corresponding entry in FMMI.** FMMI includes the TSA numbers of relevant transactions, but data managers have to manually check whether each TSA corresponds to a FMMI entry. If the TSA report indicated whether each TSA matched a FMMI, data managers would spend hundreds less hours on the report. In addition, TIM's currently unused "settled" field should reflect whether there is a POSS transaction matching the permit. Every POSS transaction for a permit requires a permit number. If POSS updated the TIM permit associated with each special forest products transaction, reconciling POSS and TIM would be far faster.

- **Allow privileged members of forest finance teams to make modifications to POSS entries after til closing.** Many frontliners tell us they identify financial errors a few days after making them, but can only fix POSS mistakes the same day (before they close the “til” for that day). If a few authorized staff at the forest could make changes to POSS, reconciling POSS and TIM, FMMI and TSA reports would be quicker and more accurate.
- **Allow Forests to create special forest product plans in TIM with no issuance limit.** All TIM permits have to be issued against a TIM “product plan,” and each product plan must have a limit. For many products, like Christmas trees, Forests have no actual limit, but have to enter one in TIM.

Possible directions for Christmas tree ePermitting

Our kick off workshop, this discovery research and our analysis have suggested several possible directions for Christmas tree ePermitting.

Our preferred directions

We propose simultaneously moving forward on two fronts: building a prototype ePermitting frontend that allows the public to print paper permits (with several special attributes) at home for Christmas tree permits, and building a simple script that can reconcile existing reports from TIM and FMMI. (These are technical directions, not acquisition strategy. Each of these directions may or may not correspond to an agile BPA buy.)

Christmas tree online permit purchasing and printing

In general, a prototype Christmas tree permitting system would support collecting a customer's payment information and issuing them a paper permit (valid for a certain date). In specific, the Christmas tree permitting prototype would support the following user stories:

- **As a member of the public**, I can:
  Vignette: Members of the public will go online, search for a National Forests near them where they can purchase Christmas tree onlines, enter a number of permits they want, enter their credit card information, pick a date for their permit to be valid, and then print the permit themselves. They'll be educated on how to be a safe steward of the forest when purchasing the permits. At the end of their transaction, they'll be instructed to put their permit, which is largely a number that encompasses a whole 8.5/11 sheet of paper, in their windshield (like many people already do with the current tags when they do not stick to the trees).
    - Find areas in National Forests near me where I can cut Christmas trees.
    - Enter my credit card information online to pay for a tag
    - Pick a date I will cut a tree so my permit is valid for one time use on a particular day and law enforcement can verify I can only use it once.
    - Print a permit so I can avoid visiting a Forest Service office. The permit takes up a full sheet of paper and a three digit code in very large, block letters. (As a permitee, I don't know that the code is shared between all permits and changes once a day.)
    - Receive instructions about where to appropriately place my printed permit so law enforcement officers can see it from a distance.
    - Be slowed down to really understand a clear set of advisories so I can be a safe forest steward (for example, understanding road conditions, areas where cutting is allowed, etc.)
- **As a law enforcement officer (LEO) or forest protection officer (FPO)**, I can:
  Vignette: Every morning during the Christmas Tree permit season, LEOs and FPOs will receive an email from the ePermitting system with a three digit code for all valid permits for that day within the pilot forest. When an LEO or FPO in the field encounters a vehicle carrying a Christmas tree in the Forest, they will look for a large piece of paper in the windshield with a number. They mentally check whether that number is the same one

they received via emai. If they don't see one, they may pull the vehicle over. If the person claims they have a permit, but forgot it at home, the officer can check it against an online list of valid permits (or call and ask a dispatcher or other to do the same). If they find someone with a Christmas tree that defies rules, they know that person receive a list of rules for that forest when they purchased the permit online.

- Receive an email containing the randomly generated three digit "day confirmation code" every morning, so I know what ePermits are valid for today.
- See a printed permit displayed in a public member's car, read its confirmation number (in large block letters) and know whether they have a valid permit for a given day. (Every permit on a given day would have the same confirmation number, which would change daily.)
- See Forest-specific instructions on each permit, so I know the permittee has been advised of the terms of their permit.
- I can call the district office or my dispatcher to receive an up-to-the-minute list of who has been issued a Christmas tree permit.

FMMI and TSA reconciliation report app

We propose building a simple app where data managers could upload their FMMI and TSA reports, and receive a simple readout of which FMMI entries do not match a TSA (and vice versa). This tool would be quick to build, build good will amongst data managers and help us collect better baseline data about the number of errors inherent in the current system.

(If our recommendations for tweaking FMMI, POSS and TIM are implemented, this tool will no longer be necessary.)

Other directions

Our conversations and analysis surfaced several other ways to implement Christmas tree ePermitting. We prefer the direction described above, but note these possibilities and why we do not suggest them.

Possible other directions include:

- **Issuing permits via a smartphone app.** Our preferred proposal could iterate into a smartphone based system, but a web and paper-based system is an easier place to start (more of an “minimum viable product”).
- **Issuing no physical permits, associating a driver's license numbers with each permit purchased online and giving enforcement officers a list of valid permits.** State and local permits often work like this. This would be easier for the permittee, but would not meet several of law enforcement’s requirements.
- **Mailing permits to online purchasers.** This option would allow the forest to continue using special printed tags, but would substantially increase someone’s workload.
- **In field credit card purchases.** Instead of making permits available online, we could build a tool to make it easier to issue permits from the field. This approach only aids mass sales, which are already cash heavy, fast processes. These sales are already hard to manage and adding another device into their business process would not be greeted well. It is also harder to do with unreliable network. (Very few people at these events expect to pay with credit card.)
- **Online purchase, but pick up a physical permit from a “always on” outdoor dispenser at district office. I**n this scenario, permittees would still have to got to forest office (although can now go after hours). Customers would likely lose the educational component provided by the frontliners. The machine would have maintenance and restocking costs. The machine would need to be protected from harsh weather or durable enough to endure winter conditions. This approach would also “lock us in” to a relationship with a hardware vendor.