Lean Six Sigma Assessment

California Timber Harvest Plan Workflows and Process | Independent Evaluation of Program Performance

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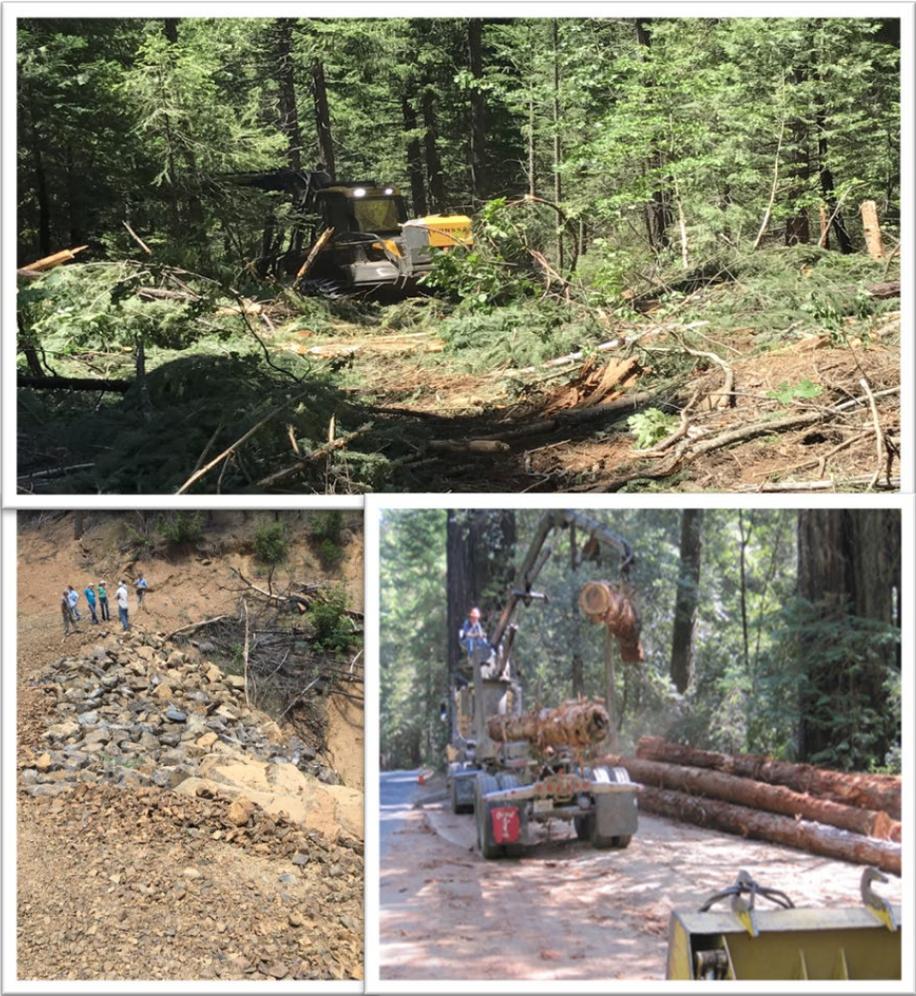
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Acronyms Utilized in this Report

Full Name/Description	Acronym
Assembly Bill	AB
One or more administrative organizations holding California State governmental authority	Agency(ies)
California Board of Forestry and Fire Protection	Board
California Department of Forestry and Fire Protection	CAL FIRE
California Environmental Protection Agency	CalEPA
California Timber Regulation and Environmental Evaluation System	CalTREES
California Department of Fish and Wildlife	CDFW
California Environmental Quality Act	CEQA
Department of Conservation's California Geological Survey	CGS
California Natural Resources Agency	CNRA
Define, Measure, Analyze, Identify, Control	DMAIC
Environmental Impact Report	EIR
Forest Practice Act	FPA or Act
Forest Practice Rules	FPR or Rules
Individuals or businesses operating within the commercial timber industry	Industry
Incidental Take Permit	ITP
AB 1492 Leadership Team	Leadership Team
Lean Six Sigma	LSS
Lake and Streambed Alteration Agreement	LSA
Non-Governmental Organization	NGO
The NiVACK Group Consulting Firm	NiVACK
Final notice that a submitted Timber Harvest Plan is in compliance with Forest Practice Act and Board of Forestry requirements	Notice of Conformance
Nonindustrial Timber Management Plan	NTMP
Pre-Harvest Inspection	PHI
Any private party engaging with Agencies to obtain a Timber Harvest Permit	Plan Submitter
Timber Regulation and Forest Restoration Program	Program
Public Resources Code	PRC
Registered Professional Forester	RPF
Supplier / Input / Process / Output / Customer	SIPOC
Timber Harvest Plan	THP
California Native American Tribes	Tribes
State Water Resources Control Board and the nine Regional Water Quality Control Boards	Water Boards

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Lean Six Sigma (LSS) Introduced

LSS is a structured continuous improvement methodology that combines two process improvement philosophies: Lean, which focuses on eliminating waste and maximizing value, and Six Sigma, which centers on reducing process variation and enhancing quality. By integrating these approaches, organizations can systematically identify inefficiencies, root out quality issues, and implement data-driven solutions that result in both greater efficiency and effectiveness. While LSS methodology was originally developed to support improvement efforts in automotive industry manufacturing, it is now a commonly used practice across multiple industries and has been demonstrated effectively across most process-driven work categories.

The value of LSS lies in its ability to deliver processes that are not only faster but that produce more predictable program outcomes - qualities essential for complex regulatory workflow like California's timber harvest review process. A tangential benefit is also realized when improved utilization of processes and tools liberates resources to assume additional value-add activities within the context of their roles. When applied thoughtfully, LSS recommendations have the ability to improve operational excellence, enhance stakeholder and employee satisfaction, and ensure sustainability by aligning process performance with broader organizational goals.

Importantly, LSS assumes a sustained, long-term commitment to data-driven organizational and workflow improvement. When adopted by an organization as an embedded, systemic process enabler, it has the potential to improve process resilience, increase an organization's strategic adaptability, and instill a collaborative and empowered culture across disparate process owners and stakeholders.

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Executive Summary

After operating the [Timber Regulation and Forest Restoration Program](#) (Program) established by Assembly Bill (AB) 1492 (Chapter 289, Statutes of 2012; AB 1492) for more than a decade, California Natural Resources Agency (CNRA) and California Environmental Protection Agency (CalEPA) administrators have enlisted an independent consultant, the NiVACK Group (NiVACK), to undertake an LSS evaluation

to understand the effectiveness and efficiency of California's Timber Harvest Plan (THP[1]) process and workflow. The objective of this assessment is to identify opportunities for process or policy changes to improve THP workflow from plan submittal, through interagency review, to final notice that a submitted THP is in compliance with Forest Practice Act (FPA) and Board of Forestry requirements (Notice of Conformance). The intent is to offer recommendations that could yield a more effective, efficient, and technologically optimized experience for all interested parties affected by the process. This includes parties from small landowners to industrial timber representatives; California Native American Tribes (Tribes); community, environmental, or other interest groups; and Agency personnel.

Recognizing the complex challenges presented by the multi-decade evolution of the timber harvesting industry in California, this assessment employed an LSS Define, Measure, Analyze, Identify, Control (DMAIC) methodology to ensure an impartial and comprehensive evaluation approach. This methodology integrates two process improvement philosophies—Lean for waste elimination and Six Sigma for reducing unnecessary or unproductive variation—with the objective of creating greater efficiency, consistency, and stakeholder satisfaction in the THP development, review, and permitting process. Lean Sigma analysis relies on both observation and data (i.e., transaction details, metrics, etc.) to identify viable opportunities for potential process improvement. Due to the nature of this particular study environment, this assessment leaned heavily on stakeholder observation, particularly in focus areas where data was not readily available. As a result, a share of this report's findings and resulting improvement recommendations focus on addressing and/or correcting stakeholders' subjective perceptions of the process. With that said, the study's findings highlight

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[1] For purposes of this document, we may refer to the creation of the THP and the timber harvest review process collectively as the "THP" process; this is exclusive of Nonindustrial Timber Management Plans (NTMP).

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potential opportunities that - if implemented – could result in a more consistent, scalable application of the THP process, benefiting Plan Submitters, interested stakeholders, and Agencies charged with THP review and permitting.

Of note, workflows and timelines related to permits issued subsequent to THP certification (e.g., permits from California Department of Fish and Wildlife or State and Regional Water Boards) were referenced but were not examined in exhaustive detail as a part of this LSS assessment.

Recommendations to the AB 1492 Leadership Team (Leadership Team) described in greater detail at the conclusion of this report collectively represent action on the part of both Agency and timber Industry personnel across the following five broad categories:

- Optimize Workflow

- Ensure Workforce Readiness

- Evaluate Performance Metrics

- Modernize Technology and Improve Data Credibility

- Improve Communication and Information Dissemination

These recommendations aligned to these five categories offer opportunities to enhance clarity, transparency, and effectiveness of the overall THP process. Because the recommended actions may require additional resources, implementation may need to be phased and prioritized over time.

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Introduction and Historical Program Context

Statutory and Regulatory Foundations

California first enacted the FPA in 1945 to regulate commercial timber harvesting on non-federal lands. Over time, California's timber harvesting oversight has evolved through statutory reforms, most notably the 1973 Z'berg-Nejedly Act, and through the California Board of Forestry and Fire Protection's (Board's) adoption and continual revision of the Forest Practice Rules (FPR). The 1973 law modernized the FPA to address public concern for fish and wildlife conservation, water quality, and the long-term sustainability of forest resources and the timber industry. The FPA establishes the goal of ensuring a thriving and sustainable timber industry that supports California's ecological objectives and conservation of wildlife habitat. Laws governing commercial timber operations on non-federal forestlands in California in part include the statutes of the FPA and the regulations of the FPR as administered by the Board. Further, the FPA and the FPR establish multi-Agency, interdisciplinary review of timber plans [e.g., Timber Harvesting Plans (THPs), Nonindustrial Timber Management Plans

(NTMPs), and others involving California Department of Forestry and Fire Protection (CAL FIRE), California Department of Fish and Wildlife (CDFW), Department of Conservation's California Geological Survey (CGS), and the California State Water Resources Control Board (Water Boards).

Beyond participating in the FPR review team process led by CAL FIRE, CDFW serves as a California Environmental Quality Act (CEQA) Responsible Agency for plans requiring the issuance of Lake and Streambed Alteration Agreements (LSA Agreements) and Incidental Take Permits (ITP) for State-listed threatened and endangered species. Additionally, CDFW is the state's trustee Agency for biological resources for all CEQA projects and is responsible for reviewing timber plans for compliance with Fish and Game Code. The Water Boards also have additional responsibilities to regulate activities generating nonpoint source water pollution on both non-federal and federal lands under the federal clean water act and California's Porter-Cologne Water Quality Control Act. Coordination among these Agencies and departments is critical to meet each Agency's respective mandates and reduce duplicative efforts. By the mid-1970s, courts recognized that timber harvests on private lands requiring discretionary state approval are CEQA 'projects,' subjecting them to environmental review. In 1976, the Legislature established CEQA's certified regulatory program pathway (often called functional equivalency), which lets an

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Agency's regulatory review process substitute for an Environmental Impact Report (EIR) when the then titled Secretary for Resources (now the Secretary for Natural Resources) certifies that it meets CEQA's standards addressing protection of soil, water, plant, and fish and wildlife resources, among others. These standards include feasible alternatives or mitigation, guidelines consistent with environmental protection, consultation with public Agencies having jurisdiction, written responses to significant environmental points raised during the evaluation process, and public notice and availability. That same year, the Secretary certified the FPR/THP review process under this pathway, exempting EIR preparation.

When AB 1492 was signed into law in 2012, among other actions, this established the Program placing a one percent assessment on lumber and engineered wood products sold at retail to support dedicated state Agency staff to efficiently and effectively facilitate permitting, oversight, and environmental protection of California's forested ecosystems. The Program, among others, is charged with protection and retention of California's forested landscapes and associated resource management while supporting sustainable commercial harvesting practices. This fund supports approximately 223 Agency staff and involves review team Agencies as well as the CNRA, the Board, and CalEPA.

Review Process- Efficiencies and Effectiveness:

The review team system provides a structured process for coordinating responsible Agency review of THPs from plan submittal through the CAL FIRE Director's decision. Participants in this process include any private party engaging with Agencies to obtain a THP (Plan Submitters), impacted state and local Agencies that actively participate in plan review and related permitting, and various other stakeholder groups who have the ability to review and comment on submitted plan elements. Requirements to ensure timely processing and approval or denial of a project include a 10-calendar day timeframe for the CAL FIRE Director, or his/her delegee to determine whether a THP is complete and acceptable for filing, a 10-calendar day period for Agencies conducting first review to initiate a field inspection of the project, and a set public review and commenting timeframe.

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Ensuring an efficient and effective regulatory program has long been a goal of all interested parties, as illustrated by the 1994 report from the Little Hoover Commission outlining steps to streamline the THP approval process. In 2013, the CNRA and CalEPA sponsored a THP process review pilot, entitled Redding Timber Harvest Review Pilot Project with the following goals:

- Analyze processing times for timber harvest permits within the Pilot Redding Project area,

- Maintain a high level of environmental protection, and

- Identify process improvements that could be expanded to other areas of the State.

This resulted in numerous recommendations, including:

- Consider establishing a framework including duties for program managers involving CNRA and CalEPA to implement and oversee AB 1492 mandates. One of the key roles of CNRA and CalEPA would be to ensure that Statewide holistic and consistent implementation of laws, regulations and policies occur when and where appropriate.

- Develop a centralized database shared by all review team Agencies that would include the necessary information to accurately monitor plan submittals plus reporting requirements of AB 1492. This database should be designed to allow individual review team Agencies to input, manage, and monitor key data important to each Agency, and where appropriate, allow data to be shared with other Agencies and the public.

- Encourage interagency communication and coordination through regular regional manager meetings sponsored and occasionally attended by CNRA and CalEPA, focused on fostering interagency communication, addressing issues in a timely fashion, assessing procedures to increase efficiencies in plan review/departments while ensuring thorough and complete environmental review of projects. These meetings are intended to be staffed by local-level Agency/Department/Board decision makers.

- Consider adopting a common Pre-Harvest Inspection (PHI) report template used by all review team Agencies.

- Investigate software that would allow review team Agency staff to directly write to a common PHI report in real time (e.g., Microsoft SharePoint software).

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- Consider editing the existing CAL FIRE PHI report template to incorporate Agency-specific recommendations not under CAL FIRE jurisdiction and clarify responsibility for enforcement.

Many of these concepts have either been adopted, were determined not to be feasible at the time (e.g., initial SharePoint tools were limited and Agency firewalls prevented cross-Agency digital coordination on reports) or are now under development.

Various other legislative acts and initiatives have arisen since the establishment of the Program to bring more efficiency to the regulation and review of timber harvest activities in California, focused on green tree timber harvest as well as climate resilient management action (e.g., AB 2889, Senate Bill 901, AB 2276, and others).

The review team Agencies continue to review and undertake actions to streamline and improve the quality of timber harvest permitting processes.

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The Current Independent Assessment Scope

Project Scope

Supported by the Leadership Team, CNRA, in partnership with CalEPA, hired NiVACK to conduct an independent LSS study of the THP process.

The scope of the study includes all aspects of the current THP process, including participants and workflow. While not the focus of this report, adjacent processes (i.e., exemption and emergency notices, other department permits) may be referenced to the extent that they intersect with THP reviews and impact stakeholder perception of the THP process.

Project Approach

NiVACK chose a common LSS approach to structure this study: DMAIC.

| **Define** | **Measure** | **Analyze** | **Improve** | **Control** |
| State the Problem | Build Hypotheses | Evaluate Root Causes | Develop Potential Solutions | Publish and Monitor |
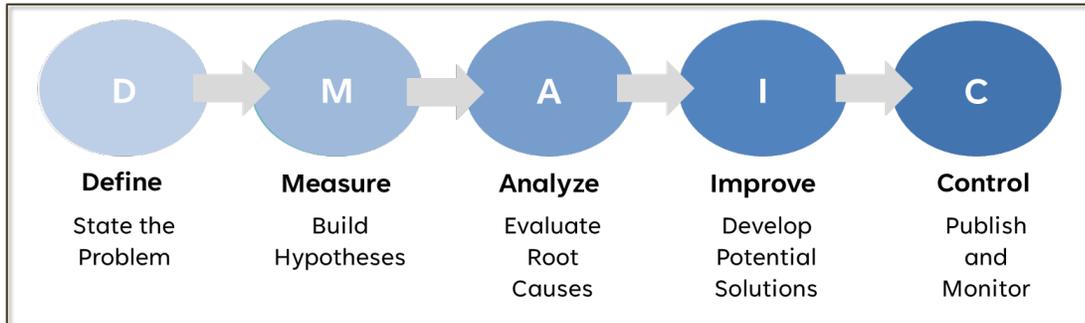
Chart 1

NiVACK used a multi-faceted data collection approach to identify potential process waste, analyze root cause, and recommend improvement opportunities. Both subjective and objective data sources have been used including:

- Existing process documentation

- Individual interviews of identified key stakeholders

- Targeted stakeholder consultations and focus group sessions

- Stakeholder surveys

- Data from the centralized data repository supporting the THP process - the California Timber Regulation and Environmental Evaluation System (CalTREES)

The study began in late 2024 and concluded in the Winter of 2025/2026.

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Current Permitting Process Structure and Environment

In the current THP process, CAL FIRE serves as the CEQA lead Agency for the review and approval of the THP. Participating responsible reviewing Agencies of the State include CGS, Water Boards and CDFW. Other entities such as counties, California State Parks, the California Coastal Commission, and Tribes may be invited to participate within the review team in certain cases. These organizations, collectively, are in place to support the State's laws and policies to ensure public safety, cultural and natural resource protection, and economic vitality of the timber industry. Other parties, including other Non-Governmental Organizations (NGOs) and the public, may also elect to participate in the THP review process.

The THP review process is a "certified regulatory program" pursuant to Public Resources Code (PRC) § 20180.5 meaning that the process serves as a functional equivalent of an EIR and the subsequent approval complies with CEQA requirements. As noted above, several Agencies participate as part of a "Review Team" (ref. 14 CCR § 1037.5) and have "responsible Agency" or "trustee Agency" authorities and responsibilities. In addition to participating as members of the Review Team, both CDFW and the Water Boards leverage the THP process to comply with statutory requirements of the Water Code and Fish and Game Code and to issue THP-related permits under their jurisdiction. While CGS does not issue permits, CGS is in place to ensure geological hazards do not impact projects or result from projects.

The THP process from initial submission to final decision can be divided into three broad categories (more information on this can be found here):

1. Plan submission, filing and first review

2. PHI and second review

3. Notice of Conformance, or plan denial

After the Notice of Conformance is issued, the THP process concludes and any consideration of ancillary permits moves to the respective responsible/trustee Agency permitting processes, as necessary.

A critical part of the THP process is the opportunity for public review and comment (as required by CEQA). This is most often facilitated by submission of questions or comments by interested parties (e.g., Tribal representatives, environmental groups, general public and others) throughout plan review up to the Notice of Conformance.

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These categories of activities affect THP workflow and subsequent plan review/approval and permitting in various ways:

1. Plan submission, filing and first review

The Plan Submitter must provide sufficient information to allow for review of the proposed plan by the relevant Agencies and public. CEQA (PRC § 15111-Projects with Short Time Periods for Approval) specifically notes that the process of THP review requires that adequate information is provided to facilitate plan review. However, information needs can vary by project due to site specific conditions.

Once submitted, the Agencies complete their initial desktop review of FPA and FPR compliance within the statutory 10-calendar day requirement. The CAL FIRE Director may return the plan if it is found to be deficient. If applicable, first review questions are posted by Agencies via CalTREES to the submitter and/or CAL FIRE inspector, requesting additional information to facilitate the review process and indicating review team interest in participating in a preharvest inspection. Once the Director determines a plan is sufficient for filing, CAL FIRE staff evaluate a need to conduct the PHI to evaluate the proposed project prior to a decision.

2. PHI and second review

The PHI must be initiated within 10-calendar days of plan filing unless otherwise mutually agreed to by CAL FIRE and the Plan Submitter. Inter-Agency coordination is necessary for efficient scheduling of the PHI, if required. After the inspection, attending Agencies provide recommendations to the CAL FIRE Director. The Director then determines if the recommendations are compliant with the Act and Rules, and are necessary to find the plan in conformance. The Plan Submitter then engages in discussions with the respective Agency(ies) and revises their plan as necessary, to address Agency and stakeholder concerns. While the PHI is required to be initiated within 10-calendar days, there is no explicit turn-around expectation for plan revision activities to conclude post PHI; timing is dependent on several factors, including but not limited to, plan risk and complexity.

3. Notice of Conformance and responsible Agency permitting

CEQA requires that the lead Agency (CAL FIRE) approve the final plan and issue the THP. After the Plan Submitter resolves all identified issues and the plan is deemed to be in conformance with the Act and Rules, the CAL FIRE Director

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formally approves the THP via CalTREES and issues a formal Notice of Conformance to the Plan Submitter. CDFW and Water Boards review the approved THP and relevant supporting documentation, and issue respective permits or agreements, as applicable.

NOTE: If a THP is found to not be in conformance, the FPRs provide that the Plan Submitter may appeal the decision. Plan denial is rare as applicants primarily work to bring their plan into conformance rather than go through the appeal process through the Board. Additionally, the FPA provides processes for state Agencies to register their disagreement with the approval of a THP. State Agencies can non-concur on a THP, at which time CAL FIRE must review the issues and respond in writing to the Agency to address the concerns. There is also an appeal process for CDFW and Water Boards, should they object to the Director's decision to approve a plan.

As described above, the THP process involves a complex set of stakeholders and other interested parties, each with unique roles, responsibilities, expectations, and objectives. The chart below summarizes the various stakeholders and their roles in THP development, review and permitting.

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Stakeholder	Primary Role	Primary Objective
CAL FIRE	Lead Agency. Coordinate process and ensure plan is in conformance with FPR.	Protect timberland resources, ensure sustainable timber harvest
CDFW	Assess plan regulatory compliance	Protect biological resources pursuant to the Fish and Game Code
Water Boards	Assess plan regulatory compliance	Protect beneficial uses of water pursuant to federal and state clean water laws and policies
CGS	Assess plan regulatory compliance	Assess geological impact
County Regulatory Agencies	Assess plan	Assure adherence to county requirements
Tribes	Represent cultural interests	Preservation of cultural sites and values.
Industrial Timber Harvesting Corporations/Companies	Submit plan and implement approved plan	Maintain industrial timberlands and monetize investment
Nonindustrial Landowners	Submit plan and implement approved plan	Maintain privately owned property and monetize investment
Private Registered Professional Forester (Consultants)	Submit plan and implement approved plan	Advise / consult / represent both industrial and non-industrial landowners
Environmental NGOs / Other Interested Parties/Public	Represent public interest	Advocate for environmental and other interests

Chart 2: Source Leadership Team

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Current End-To-End Process Workflow, Volumes and Turn-Around Times

One of the first steps in performing an LSS process review is to understand the current workflow. This is often accomplished by reviewing process documentation and/or observing work in process. Output from this part of the process includes a set of visual workflows.

Following are visual representations of the current process flow used in this LSS review to identify areas of potential improvement opportunity.

Simple Sequential Process View

This view visually depicts the high-level process workflow in sequential steps, without significant regard to who specifically does the work. It is generally useful to understand how movement occurs through a process at a high level.

Chart 3

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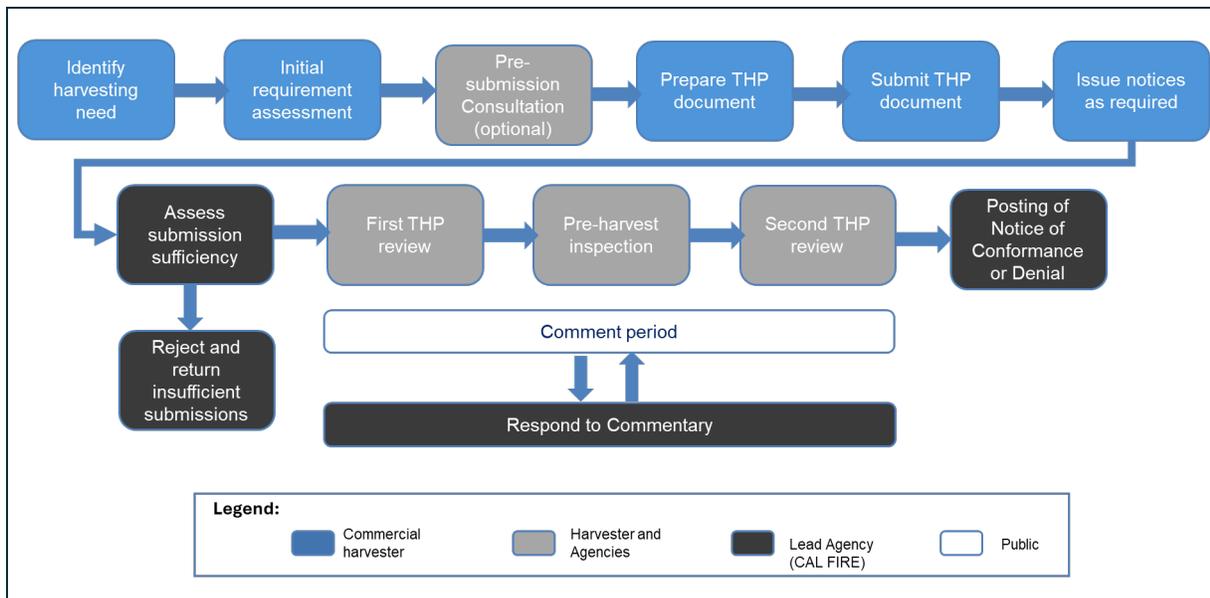
Swimlane Process View

This view visually depicts in greater detail who does what work, and how the work flows between process participants. It highlights work dependencies, and in an LSS evaluation, can help identify potential risk or waste issues related to process hand off and workflow movement.
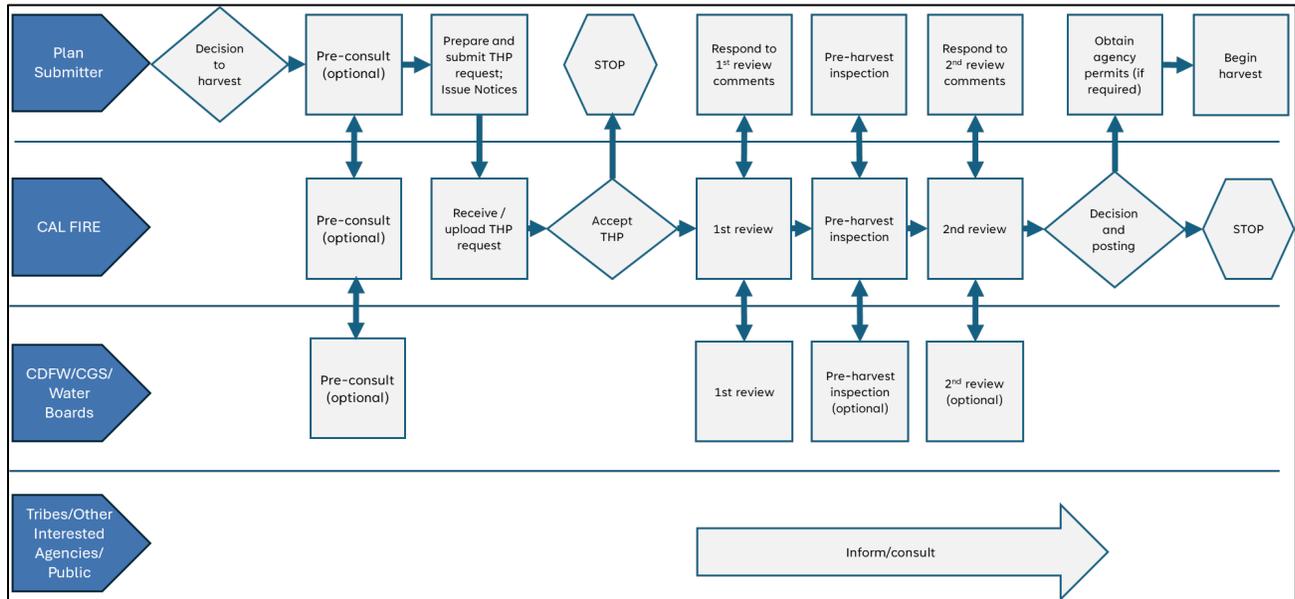
Chart 4

Supplier / Input / Process / Output / Customer (SIPOC) View

A SIPOC, a commonly used LSS tool to generally understand who needs what from whom, depicts work product and outcome interdependencies between parties and identifies potential areas of risk with regard to unclear production expectations or other dependencies. In this case, the tool was used to break down the dynamic exchange between parties throughout the THP process. Components of a SIPOC are defined as follows:

Supplier	Party responsible for work product creation (i.e., Agency, Plan Submitter, etc.)
Input	Resources/information the Supplier needs to complete the work product
Process	Action the Supplier takes to complete the work product
Output	What the Customer requires as work product
Customer	Party receiving the work product

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Supplier	Input	Process	Output	Customer
Landowner	Business factors	Evaluation	Decision to harvest	Plan Submitter
Plan Submitter	Preliminary harvest plan	Consult	Plan feedback	CAL FIRE and Plan Submitter
Plan Submitter	Updated harvest plan	Draft	THP document	CAL FIRE
CAL FIRE	THP document	Evaluate	Acceptance decision	Plan Submitter and posting to CalTREES
Tribes/ Agencies/ Public	THP document	Consult	Questions and feedback	CAL FIRE
CAL FIRE	Questions and feedback	Evaluate	Response	Tribes/ Agencies/ Public
CAL FIRE/ relevant Agencies	THP document	First review	THP feedback	Plan Submitter
CAL FIRE/ relevant Agencies	THP document	PHI	PHI feedback and plan requirements	Plan Submitter
Plan Submitter	THP document and PHI feedback	Update	Revised THP document	CAL FIRE
CAL FIRE/ relevant Agencies	Revised THP document	Second review	THP feedback	Plan Submitter
Plan Submitter	Revised THP document and feedback	Update	Revised (final) THP document	CAL FIRE
CAL FIRE	Revised (final) THP document	Final review	Notice of Conformance	Plan Submitter and posting to CalTREES
CDFW/Water Boards	Final approved THP	Enrollment/ permitting	Permit decision	Registered Professional Forester (RPF)/ Landowner

Chart 5

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THP Volume and Turn-Around Time Data

The following data was collected and used in this LSS review to analyze variances in THP volume, turn-around time, and rejection rate. The objective was to understand how those variances align to program objectives, and apply that information, as appropriate, to the further analysis of perceived pain point issues, root causes, and opportunities for improvement. The source for all THP data reflected in charts 6-9 below is CalTREES, as provided by CAL FIRE.

THP Statewide Acreage by Fiscal Year

Fiscal Year	Filed THP Count	Acres Represented
2015	253	125,444
2016	243	81,332
2017	215	81,674
2018	267	59,847
2019	237	83,933
2020	224	119,235
2021	208	92,742
2022	178	60,674
2023	171	54,075
2024	195	72,163
10 Year Average	219	83,112

Chart 6

Note: Individual plans greater than one year in review have been removed to represent more accurate FY alignment.

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THP Statewide Submissions Returned

Fiscal Year	THPs Submitted but Returned After Initial CAL FIRE Review
2020	35.6%
2021	41.8%
2022	31.1%
2023	37.7%
2024	38.6%
5 Year Average	37.0%

Chart 7

THP Days to Approval Statewide by Fiscal Year

Fiscal Year	Average Days To Approval	Minimum Days To Approval	Days for 25% Of Plans Approved	Days for 50% Of Plans Approved	Days for 75% Of Plans Approved	Days for 90% Of Plans Approved
2015	128	26	64	91	145	236
2016	107	37	70	84	113	182
2017	140	43	72	90	124	272
2018	121	43	67	86	125	200
2019	126	60	70	90	138	263
2020	114	30	66	86	133	226
2021	108	25	66	76	112	182
2022	102	32	61	74	102	182
2023	100	34	61	76	106	169
2024	97	34	63	75	93	173
10 Year Average	114	36	66	83	119	209

Chart 8

Note: Individual plans greater than one year in review have been removed to represent more accurate FY alignment.

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THP Days To Harvest Statewide
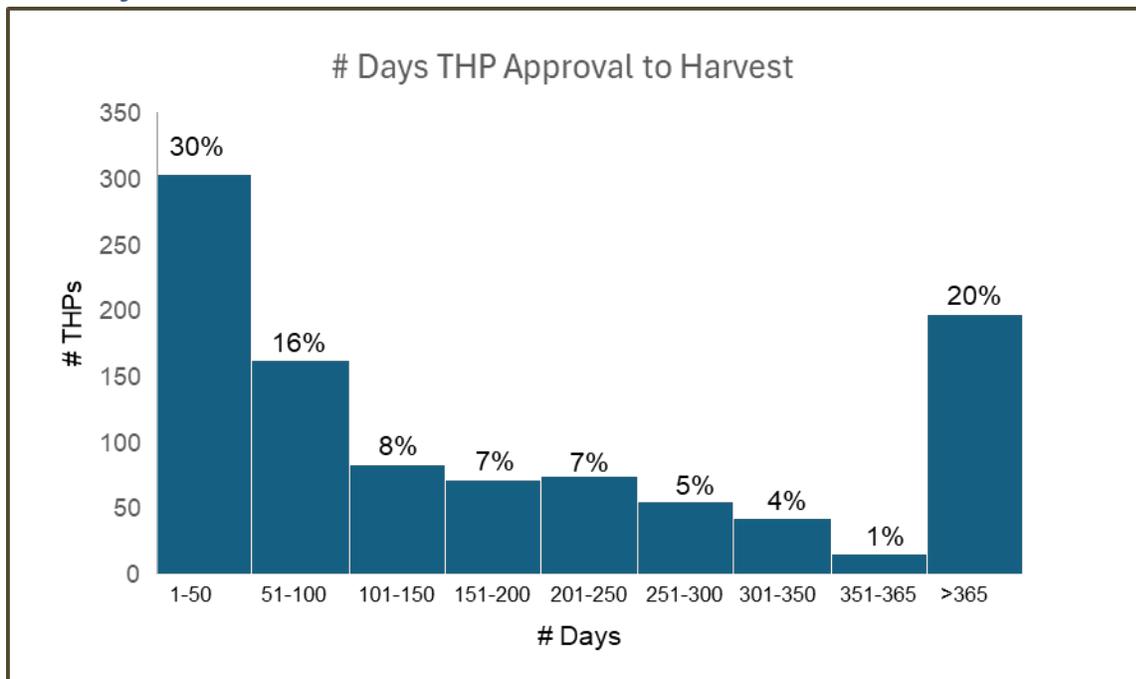

Days THP Approval to Harvest

Chart 9

Preliminary Data Implications to THP Process Analysis:

- The decline in THP submissions over the last five years (chart 6) may have been impacted by increased use of THP exemption and emergency permit types made available to facilitate removal of fuels to prevent or reduce the severity of wildfire, or removal of trees post-wildfire. As the real-time impact of these harvesting options is challenging to gauge with available data, this review did not focus on volume variance as a significant indicator of opportunity.

- Days to Approve data does not distinguish between Agency and Plan Submitter turnaround times respectively, both of which can affect the aggregate Days to Approve data for individual submissions and collectively.

- There is a perception among Plan Submitters that the number of THPs returned is higher than ideal. This has been an increasing area of focus by CAL FIRE and the Leadership Team, which led to a significant reduction in the number of reasons cited for variance. Despite the improvement, the total variance number remains consistently over 35%. In LSS terms, this represents a significant variance that contributes to lack of process predictability for the Plan Submitter and may be a contributor to stakeholder dissatisfaction and the perception that the plan submittal process is unstable.

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- While overall Agency staffing levels were not a primary focus of this review, stakeholder feedback shared elsewhere in this report indicates concerns with regard to hiring time necessary to fill vacant positions, and inadequate number of budgetarily authorized positions. Further, anecdotally, some stakeholders shared concerns with regard to impact on workload, particularly with regard to delays in scheduling and completion of THP reviews.

Non-CalTREES Data

In addition to the above data collected specific to the THP process via CalTREES, data was also provided by the Water Boards and CDFW to amplify the understanding of the time between the issuance of the Notice of Conformance and the commencement of harvesting operations.

The following data was shared by the Central Valley Water Board and North Coast Water Board summarizing time to permit across both Regional Boards for THPs enrolled and with notices of commencement since 2019:

- Time from CAL FIRE THP Notice of Conformance to the Plan Submitter requesting Water Board permit:

    40% within 5 days
    68% within 30 days
    32% greater than 30 days

- Time from Water Board receiving permit request to issuance of the Water Board permit:

    51% within 5 days
    95% within 30 days
    5% greater than 30 days

- Time from Water Board issuing permit to commencement of operations:

    21% within 5 days
    39% within 30 days
    61% greater than 30 days

The following data was also provided by CDFW Northern Regions for the period 2023-2025:

- Time from CAL FIRE THP Notice of Conformance to issuance of draft LSA during the period 2023-2025:

    42% within 5 days
    86% within 30 days
    14% greater than 30 days

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While this data provided by the Water Boards and CDFW pertains to processes outside of the THP process workflow and therefore are not specifically within the scope of this assessment, the data is relevant to stakeholder observations recorded elsewhere in this assessment that reference perceived delays between THP Notice of Conformance vs. commencement of operations.

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Voice of the Stakeholder: Interviews, Consultations and Survey Findings

A large proportion of the data collection process in this review necessitated collecting "observations" (often referred to in LSS terms as a form of "GEMBA",). GEMBA is a Japanese practice frequently utilized in LSS analysis to assess a situation in conjunction to or in the absence of data, through observation and inquiry, collecting real-world process environment insights about the work by those who do the work. This was accomplished utilizing several data collection methods including:

- Individual interviews and consultations

- Moderated small focus group discussions

- Broad release of a set of topical survey-based questions

As NiVACK facilitated these sessions, please note:

- For the purposes of this analysis, "one-off" observations and/or recommendations that were not verified through at least one other session participant were not included by NiVACK in the summary observations documented below, and

- This analysis only considered input from participants with self-identified active knowledge and experience with the THP process.

Voice of the Stakeholder Demographics:

In total, THP review process feedback was collected from 67 individual engagements and four small-group focus sessions. Participants represented state Agencies involved in the THP review team and subsequent permitting (CAL FIRE, CDFW, CGS, Water Boards), industrial timber harvest corporations/companies, non-industrial timber/landowners, Plan Submitters, Tribes, environmental groups, and other NGOs/interested parties.

The following categorizes more specifically the stakeholder engagement represented in this feedback collection process.

- 30 individual stakeholder interviews held with representatives across Agencies, Industry, Tribes, and NGOs.

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- 37 anonymous process surveys completed by individual Tribal representatives, Plan Submitters, non-industrial timber/landowners, responsible/trustee Agency personnel, and NGOs.

- Four small focus group sessions to deep dive into relevant topics. Two separate sessions were held with timber Industry groups, one with Tribal representatives, and one with a broad cross-section of NGO representatives.

Voice of the Stakeholder Insights:

The intent of these various feedback and insight collection methods was to capture a collective "Voice of the Stakeholder," revealing additional qualitative opportunities to improve/enhance the current THP process. While as a whole, subjective feedback received from the aforementioned stakeholders indicates the THP permitting process operates both efficiently and effectively to achieve its desired objectives, several ongoing and/or emerging "pain points" experienced as part of the process were articulated. "Pain points" is a phrase frequently used in LSS and other process improvement methodologies that refers generically to things that create friction, unpredictability, frustration, re-work, or in some other way create the risk of dissatisfaction with one or more stakeholder groups. The pain points identified with the THP permitting process are captured below and will serve as an additional basis for the improvement opportunity analysis contained within the balance of this report.

Commonly Articulated THP Permitting Process Pain Points:

1. **Governance**

   a. Perceived lack of clarity for participant roles/responsibilities/governance

   Primarily Reported By:

Agencies	Timber Industry Reps	Non-Industrial Landowners	Tribes	NGOs and Others
		X	X	X

   Pain Point Summary:
   The following areas of concern were raised:

   - FPRs do not clearly state the roles and responsibilities associated with Tribal involvement.

- Additionally, there is insufficient clarity and consistency in understanding if and when parties should engage in the review process to ensure cultural, historical, and environmental factors are adequately addressed.
    - For example, FPRs appear insufficient in defining when Tribes and CGS need to be proactively consulted (at the outset of the plan review vs later in the process or not at all). While both parties are informed when plans are submitted, it's not always clear if or when they will engage.
- There is confusion around submitter responsibilities to provide necessary and appropriate notice, mapping, and pre-submission assessment reports as part of the THP submission process. Both perceived lack of clarity by Plan Submitters on submission standards (what "good" looks like) and available resources, and issues with inherent cost to provide, were mentioned. This was a particular concern expressed by Non-industrial Landowners.

b. Lack of alignment on key/shared objectives, outcomes, and metrics across disparate groups of relevant stakeholders

Agencies	Timber Industry Reps	Non-Industrial Landowners	Tribes	NGOs and Others
	X	X	X	X

Pain Point Summary: Interviewed parties commented on a lack of perceived sensitivity to non-Agency priorities as they pertain to the THP process, despite the stated objective in the FPRs to ensure a thriving AND sustainable timber industry. In particular, factors such as economic objectives/hardships, broader community impacts, and cultural and historical implications are not perceived as adequately recognized or considered pertaining to plan approval considerations and/or THP permitting results.

c. Delays in issuing subsequent permits after-CAL FIRE's certification of the THP

Agencies	Timber Industry Reps	Non-Industrial Landowners	Tribes	NGOs and Others
	X	X		

Pain Point Summary: Concern was expressed related to post-THP approval delays in obtaining permits from CDFW and the Water Boards to implement an approved THP. Particularly commented on was the perception of several weeks of delay in receiving CDFW permits, though delays in finalizing necessary Water Board enrollments were also mentioned.[2]

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[2] Note: data provided earlier in this report by Water Boards and CDFW seem to contradict this stakeholder perception. However, stakeholders appear to connect THP with adjacent Agency permitting when evaluating overall process performance and results, therefore this pain point remains relevant to this assessment.

d. Unclear/inconsistently utilized decision appeal and/or reconsideration process

Agencies	Timber Industry Reps	Non-Industrial Landowners	Tribes	NGOs and Others
	X	X		

Pain Point Summary: Interviewees stated that Plan Submitters lack clear or consistent guidance on when and how to best escalate a request to review a THP decision. This applies both during the review process and after final determination, despite the topic being explicitly addressed in the FPRs. In some cases, it was reported by both Plan Submitters and Agencies that Agency personnel were willing to work through the necessary issues to reach a resolution during the process (note: this may partially explain the data showing THP approval >100 days on average for a notable percentage of submitted THPs). However, it was also noted just as frequently that it was presumed/understood by Plan Submitters that the best way to move forward

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on a stalled/rejected THP request was to re-start the process via re-submission of an amended THP.

2. Staff Resources and Training

a. Impact of changing staffing demographics

Agencies	Timber Industry Reps	Non-Industrial Landowners	Tribes	NGOs and Others
X	X	X	X	X

Pain Point Summary: The following two issues regarding changing staffing demographics were noted:

- Multiple interviewees commented on the impact of the aging RPF demographic and the retirement of experienced RPFs. This has left the perception of a "book trained" RPF resource pool that lacks "boots on the ground" experience and problem-solving perspective. This was reported as an observation by both Agency and Industry stakeholders.

- The perceived impact of a continuous gap in staffing Agency positions, and related delays in hiring replacement personnel. It was mentioned several times that this issue is exacerbated by the competitive hiring environment for forestry professionals in general. The resulting number of open positions contributed to a perception of permitting bottlenecks and delays regardless of decreasing trend in plan approval times.

b. Effectiveness/consistency of training of THP submitters and reviewers

Agencies	Timber Industry Reps	Non-Industrial Landowners	Tribes	NGOs and Others
X	X	X	X	X

Pain Point Summary: Two areas of concern were highlighted:

- Despite the ongoing provision of CAL FIRE process documentation, it was reported that the training protocol of choice across both Agencies and Industry is "boots on the ground" learning. Where training curriculum exists, its use is often discounted in favor of what is

described as variable "person to person" onboarding practices. Often this stems from the perspective that a licensed RPF has all the necessary knowledge to successfully execute the THP work requirements, and what remains is the need to relay local and tactical process considerations. The concern expressed was that this leads to a lack of consistent understanding and application of FPRs and related periodic updates, a lack of adherence to process standards that are not consistently enforced, and at times, a discounting of precedence across the THP process.

- A related concern was raised regarding the lack of a periodically required training refresh for both Agency and Industry/consulting RPFs. The desired required training would focus on FPR changes, process requirements, technology utilization updates and requirements, and other relevant THP process critical information.

3. Communication

a. Overall inconsistency of communication protocols

Agencies	Timber Industry Reps	Non-Industrial Landowners	Tribes	NGOs and Others
X	X	X	X	X

Pain Point Summary: The following concerns were raised in this category:

- There was a general lack of clarity around standard communication channels, messaging, and protocols for sharing important updates related to the THP process. In particular, it was noted that process and tool communication often defaulted to a "pull" vs. a "push", placing the responsibility on the RPF to stay informed on process and tool changes and upgrades.

- NGOs and Tribes expressed concern about staying informed on the status of THP reviews, particularly if there are delays in using/updating CalTREES review information and/or there is no "push" update communication mechanism.

- Plan Submitters commented on challenges communicating with Agency review personnel during the review period. It was noted as

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challenging to reach Agency personnel directly, and some experienced issues with regard to timely responsiveness to emails/messages.

b. Inconsistent outcome notification process

Agencies	Timber Industry Reps	Non-Industrial Landowners	Tribes	NGOs and Others
	X	X	X	X

Pain Point Summary: Though heard most frequently by Tribes and NGOs, all reporting parties referred to some degree of misunderstanding or misalignment on timing and notification of THP decision outcomes. This includes information regarding how, when and where such postings will occur. This is despite direction in the FPRs with regard to posting accountabilities and timing expectations.

4. Process Standardization

a. Perceived complexity of existing THP process vis-à-vis alternative routes/channels used by both Plan Submitters and some Agency personnel.

Agencies	Timber Industry Reps	Non-Industrial Landowners	Tribes	NGOs and Others
	X	X	X	X

Pain Point Summary: The perception is that THP requirements and submissions keep getting larger and more complex. The THP process is seen as expanding unnecessarily, without enough consideration to project acreage and risk. It was also observed that stakeholders often compare and conflate the THP process with other processes currently in place (e.g., the NTMP and emergency/exemption processes), even though the other processes have different purposes and are guided by different approaches.

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b. "One-size fits all" process approach

Agencies	Timber Industry Reps	Non-Industrial Landowners	Tribes	NGOs and Others
		X		

Pain Point Summary: Related to item a: above, the perceived cost born by small non-industrial landowners to comply with current standard FPR requirements for THPs is financially unsustainable and doesn't adequately consider risk and other factors related to their operational footprint. References were made to the relevance and challenges in adhering to the current THP Filing Checklist and decision tree provided by CAL FIRE to guide THP submission, a lack of a common repository for approved maps/mapping technology, lack of availability of leverageable regional wildlife and geological impact assessments, and perceived lack of clarity with regard to notification requirements and communication protocols.

c. Lack of pre-consult application and consistency

Agencies	Timber Industry Reps	Non-Industrial Landowners	Tribes	NGOs and Others
X	X	X	X	X

Pain Point Summary: There appears to be lack of clarity about whether a pre-THP submission consult between Plan Submitters and Agencies is required. Some Plan Submitters and Agency personnel believe this may contribute to delays in THP approval, longer review times, or THP rejection. The comments received also indicate that where pre-submission consultation does occur, it provides significant value.

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d. Lack of standardization of plan creation (i.e., templates, maps, etc.)

Agencies	Timber Industry Reps	Non-Industrial Landowners	Tribes	NGOs and Others
X	X	X		

Pain Point Summary: The following issues were identified as potential contributing factors in delays in review and approval of THPs and the inability to report consistent, relevant data from CalTREES:

- While a standard THP template is prescribed by CAL FIRE in a digital format, it was noted that some Plan Submitters continue to use their own legacy template format for submission. In these instances, CAL FIRE resources must interpret/copy/paste the submitted THP content into CalTREES using the CAL FIRE format before the THP can be reviewed/accepted.

- Secondarily, some Plan Submitters believe that defined mapping standards are outdated in the context of what's currently technically available, and older, static paper maps are still accepted.

e. Inconsistent plan submission protocols

Agencies	Timber Industry Reps	Non-Industrial Landowners	Tribes	NGOs and Others
X	X	X	X	X

Pain Point Summary: Anecdotal data received indicates 10% of THP submissions use CalTREES online creation/submission capability. Many submissions are submitted in a non-digital format and/or via a non-CAL FIRE supported template, requiring Agency personnel to manually enter/import THP information into CalTREES for processing. This raises concerns with regard to potential plan review/approval delays, as well as potential inconsistent data alignment to CalTREES metadata standards due to a manual cut/paste data upload process.

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f. Ongoing concerns regarding initial plan acceptance failure rate

Agencies	Timber Industry Reps	Non-Industrial Landowners	Tribes	NGOs and Others
	X	X		

Pain Point Summary: Data collected via CalTREES (see Chart 7 above) and noted by Industry stakeholders during interviews indicates that more than 35% of submitted plans are not accepted on the first review. Over the last five years, the reasons for failure have been narrowed to two primary issues: notice requirements and archaeology. Plan Submitters noted that the rework needed to understand, correct and resubmit rejected THPs is significant. Regardless of the initial plan acceptance issue identified, it was commented that a plan found to be in non-conformance with submission requirements may require the submitter to restart the submission process, potentially resulting in further plan review delays.

g. Lack of predictable review outcomes

Agencies	Timber Industry Reps	Non-Industrial Landowners	Tribes	NGOs and Others
	X	X	X	X

Pain Point Summary: A general concern was noted with reference to how predictable plan review decisions are. For example, it was noted that the approach to precedent in the THP review process and documentation of associated risk mitigation requirements may be inconsistent. For example, a decision with regard to appropriate stream crossing requirements accepted in one THP may be rejected in a subsequent THP on adjacent acreage with similar stream crossing considerations. In another example, the prioritization and consistency of required restoration and/or protection practices (e.g., application of reforestation requirements, preservation or restoration of cultural artifacts and sites, wildlife habitat renewal) may also vary across THPs. While Agency personnel noted that this is to be expected given the variable nature of harvesting plans and sites, these inconsistencies may create uncertainty for Plan Submitters and may lead to increased litigation risk for Plan Submitters and Agencies.

5. Technology and Automation

a. Current technology limitations

Note: while this was specifically called out related to CalTREES, many of the implications extend to technology utilized at the individual Agency level.

Agencies	Timber Industry Reps	Non-Industrial Landowners	Tribes	NGOs and Others
X	X	X	X	X

<u>Pain Point Summary</u>: The perception is that CalTREES is intended to be the single common data repository for all THP data and reporting. However, several perceived issues were reported that commonly inhibit its use as intended across all user groups. These included:

- A reportedly cumbersome and non-intuitive CalTREES user interface

- Repeated challenges locating key elements of the THP due to inconsistencies in use of metadata and document creation standards

- Perceived lack of credibility of aggregated CalTREES data leading to reporting differences across Agencies

- The lack of a consistent cross-Agency technology architecture map/plan that connects key data components and activities and creates a "single source of THP truth".

- Lack of regular, "push"-driven, and easy to understand system update notifications relevant to each user type (i.e., submitter vs. reviewer vs. program manager).

- Perceived inaccessibility of user-friendly technical training/training refresh opportunities.

 Note: See additional survey data in Chart 10 below related to CalTREES.

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b. Ongoing challenges with scheduling and tracking reviews

Agencies	Timber Industry Reps	Non-Industrial Landowners	Tribes	NGOs and Others
X	X	X		

Pain Point Summary: Despite previous attempts to resolve, it was repeatedly commented that viewing availability and scheduling PHIs remains a significant challenge. This appears particularly challenging in the Coast and Cascade regions, where higher plan volumes and weather add significant complexity.

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Additional Survey Data Supporting Pain Points:

The following additional data was collected via the aforementioned assessment survey process. Though it provides another subjective view, it also supports many of the pain points articulated above.

For this representation:

- "Favorable" indicates a positive or somewhat positive response (4 or 5 on a scale of 1-5)

- "Unfavorable" indicates a negative, somewhat negative, or neutral response (1, 2, or 3 on a scale of 1-5)

- "Gap" indicates the variance or disparity between those who perceive the area called out in the survey as viewed positively or negatively with regard to its impact on the overall THP process.

This is helpful mainly as a means to lend additional validation and credibility to the subjective perspectives collected via the interview and focus group discussions.

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	Favorable Perception	Unfavorable/Neutral Perception	Gap Between Favorable and Unfavorable/Neutral
CalTREES effectiveness in supporting primary use/need	3%	97%	-94 pts
Clarity in communication protocol and audience for technology related process changes	11%	89%	-78 pts
Clarity in communication protocol and audience for regulatory required process changes	17%	83%	-66 pts
Effectiveness of interagency coordination	35%	65%	-30 pts
Availability and quality of THP training particularly for Industry personnel	36%	64%	-28 pts
Consistency of THP review outcomes and subsequent permitting	38%	62%	-24 pts
Communication between Agencies /across stakeholders	39%	61%	-22 pts
Effectiveness of environmental protection outcomes	43%	57%	-14 pts

Chart 10: Source THP Assessment Survey

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Initial Summary Observations and Insights:

After preliminarily reviewing the THP process workflows, the program metrics/data and the "Voice of the Stakeholder" feedback, NiVACK generally concludes that the THP process effectively achieves its most basic objectives of ensuring plan review is compliant with the FPRs, related permitting/resource protection mandates, and CEQA requirements. However, a deeper review of the subjective stakeholder interview output and objective collected process data examined through an LSS lens reveals several areas of perceived variation, waste, and process confusion that, if addressed, have the potential to improve the perception of overall process effectiveness, particularly with non-Agency stakeholders. These will be further explored via the Root Cause Analysis and Opportunity sections of the report below.

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Root Cause Analysis

Focusing on the pain points articulated in the section above, the next step in this assessment was to evaluate the potential root cause(s) for each identified issue or area of concern. This was accomplished by NiVACK using two commonly employed LSS analysis methods, "Five Whys" and the "Ishikawa" fishbone process, both of which facilitate a deeper analysis of why the issue is occurring. The intent is to ensure the root cause is uncovered at its most fundamental level. This gives greater confidence in a solid path to resolution.

The outcome of these two analyses for the THP permitting process is reflected in the series of charts below.

For reference in reviewing this part of the assessment:

Issue: reflects a summary of the pain points articulated in each relevant category within the "Pain Points" section above.

Root Cause: summarizes the results of the analysis to uncover why the respective issues are occurring or are perceived as occurring/being an issue.

LSS Area of Impact: refers to the resulting LSS identified area of potential non-value add (waste) corresponding to the Issues/Root Causes identified. The LSS categories of non-value add considered in this report include:

- Over/under production – making more or less than is needed

- Over/under processing – taking more or less action than needed

- Product defects/quality – operating a process or environment that fosters unnecessary rework or that results in less-than-optimal product quality

- Unnecessary motion – creating process movement that is not needed; this movement can be in people, information, equipment, materials, or work product

- Unnecessary waiting – causing delays in cycle time due to waiting for necessary process input or steps to be completed (think of this as the opposite of a "just in time" production cycle)

- Mis-aligned skills – over or under-utilizing talent and/or skills of resources

NOTE: Two areas often included as non-value add categories in a traditional LSS analysis include unnecessary transportation and unnecessary inventory. For the purposes of this analysis, these two categories were either considered irrelevant to

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the THP process, or if minimally evident were consolidated into a more general definition of "unnecessary motion".

Governance:

Issue	Root Cause(s)	Identified LSS Area(s) of Impact
a) Lack of clarity and consistency of application for participant roles/responsibilities/ governance	1) Current roles and responsibilities as defined in FPRs may not be granular enough to clearly drive consistent outcomes (i.e., no evidence found of a comprehensive roles and responsibilities matrix). 2) No clear process role defined for Tribes as to their role or opportunity to contribute/engage. 3) Roles and responsibilities not sufficiently represented in RPF training and position accountabilities.	• Over/under production • Product defects/quality • Unnecessary motion • Mis-aligned skills
b) Lack of alignment on key/shared outcomes across relevant stakeholders	1) No shared key results measures that reflect multiple stakeholder interests (i.e., Agencies, Industry, Tribes, NGOs, etc.). 2) Insufficient Agency accountability and/or training on shared outcomes. 3) Tribal and public dissatisfaction with degree to which comments are considered and incorporated into the THP review and approval process.	• Over/under production • Over/under processing • Mis-aligned skills

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Issue	Root Cause(s)	Identified LSS Area(s) of Impact
c) Delays caused by subsequent permit/registration activities leading to perception of flawed THP process	1) Insufficient identification and alignment of subsequent permitting processes, outcomes, and interdependencies. 2) Insufficient expectation setting with stakeholders with regard to process timing and turnaround.	• Over/under production • Over/under processing • Unnecessary motion • Unnecessary waiting
d) Unclear/inconsistent Plan Submitter appeal and/or reconsideration process	1) Practical application of appeals process per the FPA/FPR is not well understood at the Industry RPF level.	• Over/under production • Unnecessary motion • Unnecessary waiting

Chart 11

Resources and Training:

Identified Pain Point	Root Cause(s)	Identified LSS Area(s) of Impact
a) Impact of changing personnel demographics resulting in loss of deep THP knowledge and experience	1) Insufficient formalized and standardized RPF onboarding program for both Agency and Industry RPFs. 2) Lack of annual or bi-annual RPF FPR and THP re-certification requirements. 3) Insufficient formalized and standardized succession planning protocols. Relevant across both Agency and Industry, but particularly useful to address Agency issues. 4) Agency RPF positional competitiveness vis a vis external hiring market.	• Mis-aligned skills • Over/under processing • Product defects/quality

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Identified Pain Point	Root Cause(s)	Identified LSS Area(s) of Impact
b) Ineffectiveness/ inconsistency of existing training	1) Lack of comprehensive and standard training/onboarding program for all RPFs (Agency and Industry). 2) Lack of annual or bi-annual RPF re-certification requirements for Agency and Industry.	• Mis-aligned skills • Over/under processing • Product defects/quality

Chart 12

Communication:

Identified Pain Point	Root Cause(s)	Identified LSS Area(s) of Impact
a) Overall inconsistency of communication protocols	1) Lack of a comprehensive and standard THP communication model inclusive of key messages, channels, and templates. 2) Insufficient clarity regarding communication roles, responsibilities, and accountabilities.	• Over/under production • Over/under processing • Unnecessary motion • Unnecessary waiting • Mis-aligned skillsets
b) Inconsistent outcome notification process	1) Insufficient clarity regarding required outcome notification channels and timing. 2) Insufficient clarity regarding outcome notification roles, responsibilities, and accountabilities.	• Unnecessary waiting • Mis-aligned skillsets

Chart 13

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Process Standardization:

Identified Pain Point	Root Cause(s)	Identified LSS Area(s) of Impact
a) Complexity of existing THP process compared with alternative routes/channels	1) While the FPRs and THP process have both been separately and incrementally updated/changed over time, no evidence was discovered indicating the process has undergone a comprehensive end-to-end re-evaluation of the THP process workflow leveraging risk-based and Agile design principles, to ensure it remains effectively aligned to FPR.	• Over/under production • Over/under processing • Unnecessary motion • Unnecessary waiting • Mis-aligned skillsets
b) "One-size fits all" process approach	1) Inconsistent application of risk-based process design and/or ongoing needs evaluation/re-assessment. 2) Lack of adequate support model especially for non-industrial land managers to provide process clarity for infrequent THP submitters, particularly in the areas of mapping, required pre-harvest assessments, and notification/communication.	• Over/under production • Over/under processing • Unnecessary motion • Unnecessary waiting • Mis-aligned skillsets
c) Lack of pre-consult application and consistency	1) Insufficient awareness of the availability to conduct a pre-consultation process, and outlining roles, responsibilities, and parameters.	• Over/under production • Over/under processing • Unnecessary motion

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Identified Pain Point	Root Cause(s)	Identified LSS Area(s) of Impact
d) Lack of standardization of plan creation (i.e., templates, maps, etc.)	1) Plan creation standards defined in the FPRs are limited in specificity, required application, and enforceability. Standards may be outdated, not taking advantage of advances in technology (e.g., mapping standards).	• Over/under production • Over/under processing • Product defects/quality • Unnecessary motion
e) Inconsistent plan submission protocols	1) Failed to connect plan submission standards as defined in the FPRs with enforceability in practice. 2) Current CalTREES submission template does not effectively meet all submitter needs. For example, the required linear sequencing of data input does not align to how Plan Submitters create THPs, and there is limited embedded help in the template.	• Over/under processing • Product defects/quality • Unnecessary motion • Unnecessary waiting
f) High initial plan acceptance failure rate	1) Insufficient clarity in FPRs related to plan preparation standards. 2) Lack of pre-consultation consistency. 3) Insufficient RPF training for both Agency and Industry RPFs related to both THP preparation, and to provide a common negotiation-based approach to encourage plan outcomes that align to all FPA objectives.	• Over/under processing • Product defects/quality • Unnecessary motion • Unnecessary waiting • Mis-aligned skills

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Identified Pain Point	Root Cause(s)	Identified LSS Area(s) of Impact
g) Lack of predictable review outcomes	1) Insufficient clarity in FPRs with regard to application of precedent and prioritization of CEQA environmental priorities specifically related to restoration. 2) Insufficient transparency with regard to Tribe/Public commentary review and Agency response.	• Over/under processing • Unnecessary motion

Chart 14

Technology and Automation:

	Root Cause(s)	Identified LSS Area(s) of Impact
a) Current technology limitations	1) No evidence of existing cross-Agency technology architecture map. 2) Insufficient standards for single source of truth for THP workflow data. 3) Limited THP creation or submission standards defined. 4) Limited CalTREES system update notification protocol. 5) No required system training or re-certification standards – CalTREES training appears to be "pull" vs "push" (i.e., must be actively sought by user vs. automatically issued/required by system administrator,	• Over/under processing • Product defects/quality • Unnecessary motion • Mis-aligned skills
b) Ongoing challenges with scheduling and tracking of reviews	1) Lack of standard PHI scheduling system utilized across all parties (internal and external).	• Unnecessary motion • Unnecessary waiting

Chart 15

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Root Cause to Potential Opportunities

Based on the above root cause analysis, a list of potential improvement opportunities has been offered for the Leadership Team's consideration that we believe, if implemented, could remove or significantly reduce process waste while maximizing value (*Lean*) and reduce unnecessary or unproductive variation thereby enhancing quality (*Six Sigma*). The opportunity list below identifies 14 strategic and tactical actions to help address issues identified by this assessment.

Optimize Workflow

1. <u>Perform Workflow Roles and Responsibilities Gap Analysis</u>: To ensure a common understanding of roles, responsibilities and actions related to the THP workflow, utilize existing channels to perform a gap analysis to identify specific improvement opportunities for the following:

   a. Appropriateness, completeness, and clarity of all THP workflow roles vs. common stakeholder understanding.

   b. Appropriateness, completeness, and clarity of all THP responsibilities, and accountabilities vs. common stakeholder understanding.

   c. Appropriateness, completeness, and clarity of current THP plan creation and submission requirements vs. common stakeholder understanding.

2. <u>Assess THP Content Requirements</u>: To ensure the THP workflow remains well aligned to the FPA and FPR requirements and improve THP submission quality, consider a "clean sheet," comprehensive evaluation and re-design of content requirements across the THP workflow, utilizing risk-based and Agile design principles. Include all aspects of current content requirements (i.e., plan elements, mapping standards, notice requirements).

3. <u>Institute and Embed a Management of Change Culture/Practice</u>: To establish a means to ensure the THP workflow stays responsive to change and aligned to changing statutes and evolving FPA requirements, develop a THP management of change practice that includes an ongoing and sustained focus on process quality and effectiveness, a regular periodic review of process performance and gaps, a means to identify and prioritize process change requests and requirements, and the cultural embedding of process ownership and accountability across the organization.

4. <u>Perform Gap Analysis Between THP and Adjacent Permitting Processes</u>: To address the perception that perceived weaknesses in adjacent permitting activities is a THP workflow-inherent issue and failure, conduct an end-to-end permitting process evaluation across all adjacent permitting Agencies (CAL FIRE, Water

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Boards, CDFW, etc.) to identify inherent gaps and disconnects in requirements, execution, timing, and synchronicity.

Ensure Workforce Readiness

5. <u>Create a Comprehensive THP Review Personnel (Resource) Plan</u>: To better address anticipated THP review requirements and ensure adequate personnel and related resource needs:

   a. Develop a program optimization plan and cross-Agency resource model to better describe critical staff coverage across Agencies and regions and engage in applicable succession planning to ensure coordination of adequate resources across departments.

   b. Perform routine assessments to identify current critical personnel gaps across regions and Agencies.

   c. Evaluate and update Agency position requirements (such as duty statements) and align them with THP performance metrics.

6. <u>Review and Update Agency Training Program</u>: To ensure all review team personnel are onboarded to their roles with consistency, update and deploy a required, comprehensive, and standard Agency personnel THP training and onboarding program, with applicable training refresh mandates/requirements.

7. <u>Establish Industry Training Program</u>: To ensure all Plan Submitters maintain current knowledge necessary to perform THP workflow responsibilities, develop an elective THP Industry certification/re-certification training program applicable to all Plan Submitters and Industry personnel engaged in the THP process.

8. <u>Evaluate THP Support Model</u>: To foster good will and effective partnership with under-resourced Plan Submitters (especially, but not limited to, non-industrial landowners), re-evaluate the effectiveness of current stakeholder support models, particularly in areas of plan submission and general review process support.

Evaluate Performance Metrics

9. <u>Reassess THP Process Goals and Key Performance Metrics</u>: To ensure Agency and stakeholder "buy in" to joint THP workflow accountabilities, evaluate and reassess core THP goals (e.g., what defines success), and revise key standard reporting metrics to reflect shared stakeholder objectives inclusive of all FPA objectives. This has the potential to improve transparency as to how Agencies and the public track Program performance vis-à-vis the issues stakeholders care about most (e.g., responsiveness to public comments; return/rejection rates of THP submissions; THP process cycle time vs expectation).

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Modernize Technology and Improve Data Credibility

10. <u>Create a THP Technology and Data Design Vision and Roadmap</u>: To ensure consistency in THP data and information needed to review THP requests and oversee/manage the program, and to optimize future usability and adoption of THP technology solutions:

    a. Develop a technology future vision and roadmap based on a comprehensive architecture and data management map/framework.

        i. Perform a CalTREES gap analysis: needs, current performance

        ii. Create future vision that documents solution potential

        iii. Enlist a technology architect to develop a solution requirements assessment.

    b. Establish and enforce standards for THP template use and submission, including refreshed standards for inclusion of maps and other technical reference material submitted with the THP.

    c. Create a plan for prioritizing and managing additions/modifications to THP-supporting technology.

11. <u>Evaluate and Implement Cross-Agency Administrative Tools</u>: To enhance the efficiency of planning for joint Agency activities in support of the THP workflow, evaluate potential use of standardized required workplace administrative tools (i.e., calendars).

12. <u>Enhance Field Productivity</u>: To optimize productivity for field Agency personnel, invest in mobility (i.e., the ability to work online and behind the firewall from anywhere).

Improve Communication and Information Dissemination

13. <u>Standardize Communication Framework</u>: To address the stakeholder perception that the current THP communication process is fragmented, unreliable and inconsistent, develop a comprehensive THP process communication and notification framework, inclusive of key messages, channels, timing, and accountability.

14. <u>Evaluate Comment Period Management Practices</u>: To specifically address concerns related to inconsistencies in responding to Tribes and public comments during the THP comment period, re-evaluate, clarify, and communicate comment management requirements, timing expectations, and responsibilities.

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Conclusion

This LSS assessment of the THP workflow and process has yielded some interesting and insightful findings. From NiVACK's perspective, for the most part, the THP process functions as designed to deliver timber harvest permits. However, there are numerous opportunities to lend both transparency and clarity to the process and workflow that have been highlighted in the body of this report. In our view, the biggest obstacle to program success appears to center on unclear, mis-represented and/or missed expectations with regard to performance expectations and/or outcomes.

It has been our pleasure to work across the various stakeholder groups who have a vested interest in THP outcomes to better understand this complex process and workflow. Based on direct stakeholder feedback and recommendations provided, supported by data-driven insights, we offer the above recommendations to the Leadership Team. These recommendations leverage our expertise and years of experience in optimizing and transforming process environments. As the recommendations vary in scale and resource needs, implementing them will need to be phased and prioritized over time. NiVACK recommends that the Leadership Team engage with stakeholders in determining how to best evaluate, prioritize, and implement these recommendations.

Of final note, LSS assessment and process optimization is rarely successful if treated as an isolated, one-off event. Rather, the power comes from culturally embedding a transformative mindset and management of change process framework across the many diverse groups that participate in the THP process. A continuous improvement approach requires investment and oversight but is the best way to ensure that "how work gets done" remains aligned with both current expectations of optimizing efficiency and effectiveness, and with future opportunities for radical transformation and change.

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