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August 24, 2016

J. Keith Gilles, Chairman
California Board of Forestry and Fire Protection
P.O. Box 944246
Sacramento, CA 94244

**RE: EPIC and Coast Action Group Comments Regarding June 10, 2016 45-Day
Notice of Proposed Rulemaking for Working Forest Management Plan**

Dear Chairman Gilles and Board of Forestry Members:

I hereby present these additional written comments on behalf of the Environmental Protection Information Center (EPIC) and Coast Action Group (CAG) as part of my oral testimony before the full Board of Forestry and Fire Protection as part of its noticed-hearing to consider its 45-Day Notice of Proposed Rulemaking to promulgate implementing regulations for AB 904 and the Working Forest Management Plan (WFMP). EPIC and CAG request a formal, written response to the additional concerns presented in both our written and oral testimonies provided as part of this 45-Day Notice of Proposed Rulemaking Hearing proceedings.

The WFMP program must be diligently implemented, as it provides for a plan of operations in perpetuity. The WFMP program is effectively the state and our public offering to non-industrial timberland owners a permit system with an indefinite life *in exchange for* a public document that details all aspects of forest management, based on a requirement for unevenaged management and attaining sustained yield that is inherent for the forest lands that the permit application covers. It thus must adhere to the plainly stated objectives set forth in AB 904.

We include here, as Attachment "A," a list of changes which we believe are minimally necessary to make the proposed rules adequate under AB 904. We also provide these additional comments.

As our August 1, 2016 comments discussed, we believe the proposed WFMP regulations do not provide rigorous inventory standards as required by AB 904. We provided extensive comments on this issue. To be effective, the rules must articulate the level required to provide increased timberland productivity (growth). The

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minimum standards in the Forest Practice Rules are not sufficient. Some may say it can be based on what is currently occurring on the WFMP footprint. But this would provide only for maintenance of a status quo. Increased productivity should be based on the biological potential of the land, as this takes AB 904 in its entirety, to provide increased productivity which protects all natural resources and other long term benefits.

We remain concerned that the proposed rules permit reliance on only minimum stocking standards. Furthermore, we believe the program needs clear standards to evaluate on a regular basis whether the landowner is continually fulfilling the commitment to unevenaged management and sustained yield.

On August 18, the Professional Forester Examining Committee conducted a discussion of "RPF License applicability to the Sustained Yield Analysis," reviewing a letter submitted by Chris Maranto. We provide the Maranto letter as Attachment "B." This letter raises questions about the accuracy of sustained yield analyses submitted by RPFs.

At the hearing, the issue which came forward so clearly was documented concern about the lack of professional competency by RPFs in developing sustained yield analyses, and particularly development of growth and yield projections for NTMPs. It was clear from that meeting that this is a serious problem with the NTMP program, and one for which the Department does not have all the tools it needs to address it. RPFs who file NTMPs often use projections that depend on and use too short a time interval to demonstrate a balance of harvest and growth in the long term after the initial harvest. The result is that the Department is accepting analyses that are so simplistic that they are meaningless both in a professional and regulatory sense. As Susan Robinson commented to EPIC after hearing the presentation, "I am shocked at the utter disregard for doing the right things on the NTMP." The proposed rules must provide clear standards for growth and yield models and projections, which will permit the Department to decide if it is valid, and to evaluate the RPF's accuracy and reliability of the information.

The rules fail to give the Department the tools it needs to evaluate the accuracy of projections or models for projecting growth and yield. As we mentioned, it is not clear what is meant by "appropriate for stand conditions," as that phrase is used in Proposed Rule 1094.6(g). As is so often the case, the Department may well be confronted with an RPF claiming that s/he has used "professional judgment" to determine the chosen methodology is appropriate. The proposed rules do not give the Department the criteria by which it can judge whether the RPF's exercise of professional judgment is valid or not--and whether the chosen models or projections are valid or not. While the proposed rules do provide some definition of the acceptable level of inventory accuracy to begin with, they fail to provide mechanisms for the acceptable level of inventory accuracy for the planning process into the future.

We provide as Attachment "C" a copy of a power point presentation that was

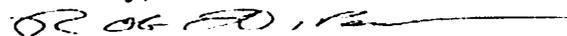
given to the Natural Resource Committee Working Group on October 16, 2012 by Chris Maranto. We attended this presentation and received a copy of the power point at that time. We believe this provides a good overview of issues confronted in the NTMP program which will occur in the WFMP program, unless addressed. This presentation did assist in securing needed changes to AB 904, such as development of language for identifying timber stands. However, as noted on the last few slides, remaining is the failure to provide standards to ensure that growth projections do account for harvest. This is basic to a valid growth and yield projection.

We also want to clarify our concerns about the use of group selection as a silviculture system. As we have reviewed the rules, we see that the 300-point count standard *does not apply* to group selection. (August 1, 2016, at 32.) There is no explicit standard for re-stocking a site logged under group selection. A landowner can choose to do nothing, with no duty to re-plant or restock. This poses a serious problem, as identified in our letter.

We want to underscore our concern about the use of exemptions. They must not be allowed, unless they are filed in such a manner as to refer to and rely on the approved WFMP. They should not be allowed to be filed as a separate harvest permit. As currently proposed, an exempt activity conducted pursuant to 14 CCR 1038 could allow a timberland owner to remove, each year, as much as ten (10) percent of the standing timber volume per acre. This is contrary to the entire legislative purpose of AB 904. As currently proposed, the rules require that a Working Forest harvest Notice shall be filed "prior to the harvesting of any timber." Does this provision apply to exemptions? It should, because otherwise there is a broad door through which landowners may take advantage of the exemption provisions to log without relationship to an approved WFMP.

EPIC and CAG remain concerned that the proposed regulations to breathe life into AB 904 and the WFMP program are insufficient, and will not attain the standards required by the authorizing statute, or comply with other applicable laws, as articulated in all our comments to this point, as well as in the summary provided herewith as Attachment "A." EPIC and CAG remain open to a sit-down meeting with Board staff to work through our myriad of concerns with the WFMP and the solutions to these that we can foresee.

Sincerely,



Rob DiPerna

Environmental Protection Information Center

Alan Levine

Coast Action Group

Enclosures:

Attachment A: EPIC and CAG List of Issues and Possible Resolutions for WFMP Regulations. EPIC and CAG, August 22, 2016.

Attachment B: Maranto, Chris. RPF License applicability to the Sustained Yield Analysis. Letter to Professional Foresters Examining Committee, August 18, 2016.

Attachment C: Maranto, Chris. PowerPoint presentation to WFMP Legislative Stakeholder Working Group, October 16, 2012.

ATTACHMENT "A"
Changes to the Proposed WFMP Regulations
Which Would Go a Long in Problems Identified by EPIC and Coast Action

The following provides a bullet list of our major concerns. This is not intended to be a summary or all-inclusive of our August 1, 2016 comment letter. This is intended to provide recommendations to facilitate a meaningful discussion with the Board and/or its staff, in an effort to secure effective regulation for implementation of AB 904. We believe that given the nature of the WFMP – as a plan in perpetuity – adequate provisions must be in place to ensure the protection of our forest resources into the future.

1. *A WFMP must be limited to a single landowner.* A WFMP comprising the lands of multiple landowners is not authorized by AB 904.
2. *Landowner management objectives must be stated in the proposed WFMP to ensure consistency with and implementation of AB 904.* The WFMP landowner must set forth in its own words its management objectives, and activities to achieve those objectives, to increase productivity of timberland and provide a sustainable forest using unevenaged management and protection of all natural resources and long term benefits. (PRC §§ 4597(a)(3), 4597 (a)(5), and 4597.1(j)).
3. *At a minimum, the following provisions must be added to the WFMP contents as measures which comprise rigorous inventory standards as required by AB 904:*
 - Requirement to identify the methodology and measures to ensure added carbon sequestration;
 - Statement of what constitutes the landowner's "rigorous timber inventory standards";
 - Metrics to provide for and inform periodic review and verification of the identified "rigorous inventory standards";
 - Criteria the Department shall use to determine if the WFMP submitter's model used for projecting growth and yield and its determination as to what is "appropriate for stand conditions" is adequate to develop LTSY projections which achieve unevenaged management in perpetuity, while ensuring the long term benefits identified in AB 904;
 - Mechanisms to define an acceptable level of inventory accuracy for the entire planning horizon, and not just for initial estimates;
 - A harvest schedule for the planning horizon, sufficiently detailed to justify the projected LTSY;
 - inventory analysis based on grouping of trees of similar age, species composition, stand structure, and maximizing variability between strata;
 - Requirement to use the Scribner log rule as the metric to calculate volume;

- Metrics to ensure that each staged harvest does not over-harvest inventory;
- Monitoring provisions to annually document and track operations under the WFMP Notice;--survey results identifying presence or absence of protected wildlife species and fisheries, and their habitats;
- Clearly defined mechanisms to ensure protection of long term benefits, including fish and wildlife, and water quantity and quality, and aesthetics;
- Identification of potential erosion sites throughout the WFMP; and
- modeling for any proposed group selection which includes criteria and requirement for re-stocking after logging;

4. *Require unevenaged management as the silvicultural system to be implemented within reasonable period of time. To ensure AB 904's objectives, the following must be included in the proposed rules:*

- Prohibit use of evenaged management;
- Require re-stocking of group selection units to ensure active efforts to secure re-growth;
- Create provisions to require that any proposed exemption must be filed under the approved WFMP, so that it may be reviewed and monitored in accordance with an approved WFMP; and
- Define what is meant by "no net-loss of" of Late Successional Forest Stands to ensure that there never is a reduction in LSF stands within the WFMP area.

5. *Change the 5-year Review Process to include provisions which require:*

- A defined public review and comment period of the 5-year review document
- Notice and distribution of the Plan Summary to the Review Team;
- Notice of the 5-year review meeting(s) be provided to the public, land owner, timber owner, RPF, supervised designee, and Review team;
- Review of the "rigorous inventory standards" identified as such in the WFMP to determine if they are achieving AB 904's long term benefits such as increased productivity of timberland, sustained yield, unevenaged management, aesthetics, and promotion of forest stewardship that protects watersheds, fisheries and wildlife habitat;
- Review the WFMP administrative file and operations to evaluate whether all other laws, including the Porter Cologne Water Quality Act, the California Endangered Species Act, and Fish and Game code sections 1600 *et. seq.* have been followed;
- Specific findings for the 5-year review; and
- Standards to be used by the Department in the event the 5-year review identifies problems which must be addressed and remedied.

6. *Require that the rules governing WFMP shall apply to any application for transitioning a NTMP to a WFMP.*
7. *Require that once approved, a WFMP shall comply with any new applicable substantive standards in the Forest Practice Act or Forest Practice Rules.*
8. *Provide standards by which the Department shall evaluate whether a WFMP should be cancelled due to a failure to meet the objectives of unevenaged management and/or sustained yield, or fail to provide rigorous inventory standards which ensure AB 904's long term benefits.*
9. *All of the contents of the WFMP and the WFMP Notice must be publically available.*

J. Chris Maranto
2781 Pickering Way
Sacramento, CA 95833

June 19, 2016

Board of Forestry and Fire Protection
Professional Foresters Registration
P.O. Box 944246
Sacramento, CA 94244-2460

Dear Professional Foresters Examining Committee (PFEC):

I have been a RPF since 1995 and over this span I have made a number of observations encircling what is represented as professional forestry in California. I am writing to PFEC to ask your opinion as it relates to how individual RPFs use their license to provide services. I raise these questions solely as a RPF and out of a sincere concern first and foremost for the welfare of my profession; these questions do not reflect or are they asked on behalf of my employer. I look forward to your serious consideration and response to the following:

Professional Foresters Law PRC § 752(b) provides a list of some of the specialties that a RPF may have to consult as part of their duties. Specifically, 752(b) in part specifies the following:

A professional forester is licensed to perform forestry services only in those areas of expertise in which the person is fully competent as a result of training or experience. In order for a professional forester to fulfill all of his or her responsibilities with regard to a particular activity on a site, if the expertise that is prudently required exceeds the expertise possessed by the professional forester in that regard, the professional forester may need to utilize the services of other qualified experts, including, but not limited to, archaeologists, botanists, civil engineers, ecologists, fisheries biologists, geologists, hydrologists, land surveyors, landscape architects, range scientists, soil scientists, or wildlife biologists.

With the foregoing, I request of the PFEC to please address the following questions:

- 1) Does PRC § 752(b) apply to the discipline of sustained yield analyses?¹
 - a) If so, does PRC 752(b) also apply to:
 - i) CAL FIRE review team members and their supervisors? {To be clear, are review team members obligated to have a sufficient understanding in sustained yield concepts including personnel that serve as their supervisors?}

¹ Or any sustained yield analysis as required by the Forest Practice Rules such as Option A, B (SYP), PTEIR or NTMP.

- ii) Supervisors of RPFs that have submitted a sustained yield analysis to CAL FIRE for approval?
 - b) If not, then why not?
- 2) If PRC 752(b) applies to sustained yield analyses, what thresholds would the PFEC hold as evidence to call in to question the competency of a specific RPF with respect to such an analysis? Considering the breadth that this question could be interpreted, I will provide several scenarios to serve as examples:
- a) Basing a 1,000-acre plan where the growth and yield projections and estimate of sustainability had not taken in to account what were actually two 500-acre contrasting vegetation or stand types.²
 - b) Using results from an even-aged yield study (e.g. Lindquist and Palley) in providing projections of growth for a plan based on uneven-aged silviculture (i.e. Single-Tree Selection). For clarity, the planning horizon extends out to 100 years.
 - c) Using a percent growth formula to make forecasts of future standing inventory levels. For clarity, the planning horizon extends out to 100 years.

Finally,

- 3) If an RPF subsequently learns that his prior analyses of sustained yield were found to be substantially in error,³ is the RPF obligated to notify the landowner and make necessary corrections to each analysis; and what responsibility would the lead agency have to ensure that the record is amended to reflect an accurate analysis?
- 4) In such cases where the *RPF of Record* had hired a forest biometrician or a growth and yield expert to conduct a sustained yield analysis for a specific ownership, to what level must the *RPF of Record* have familiarity with the analysis so that the RPF can (a) effectively represent the plan during review as well as (b) successfully ensure compliance during plan implementation?

Again, I would appreciate that you address what I consider as serious questions. Should you need any clarification please let me know; and *thank you* for your time.



Sincerely,
J. Chris Maranto, MS
RPF #2502, CF #772

² If you need additional information to address this question, then include the following: One 500-acre stand type is situated on a Site Class II (high) productivity and composed of a mix-conifer composition having 25 MBF per acre on a conifer Basal Area density of 200 sq.ft./acre that had been harvested by a single overstory removal. The second 500-acre stand type consisted of Site Class III (medium) and composed of pine having 7 MBF per acre on a conifer Basal Area density of 50 sq.ft./acre where the overstory had been harvested on three separate occasions over the past 40 years.

³ For example, (1) not accounting for harvest when developing projections of growth; (2) not accounting for compliance with Forest Practice minimum basal area standards when projecting harvests; (3) not adjusting for actual stand conditions when interpolating periodic growth from published yield tables; (4) not stratifying an ownership in to stand types consistent with professional standards.

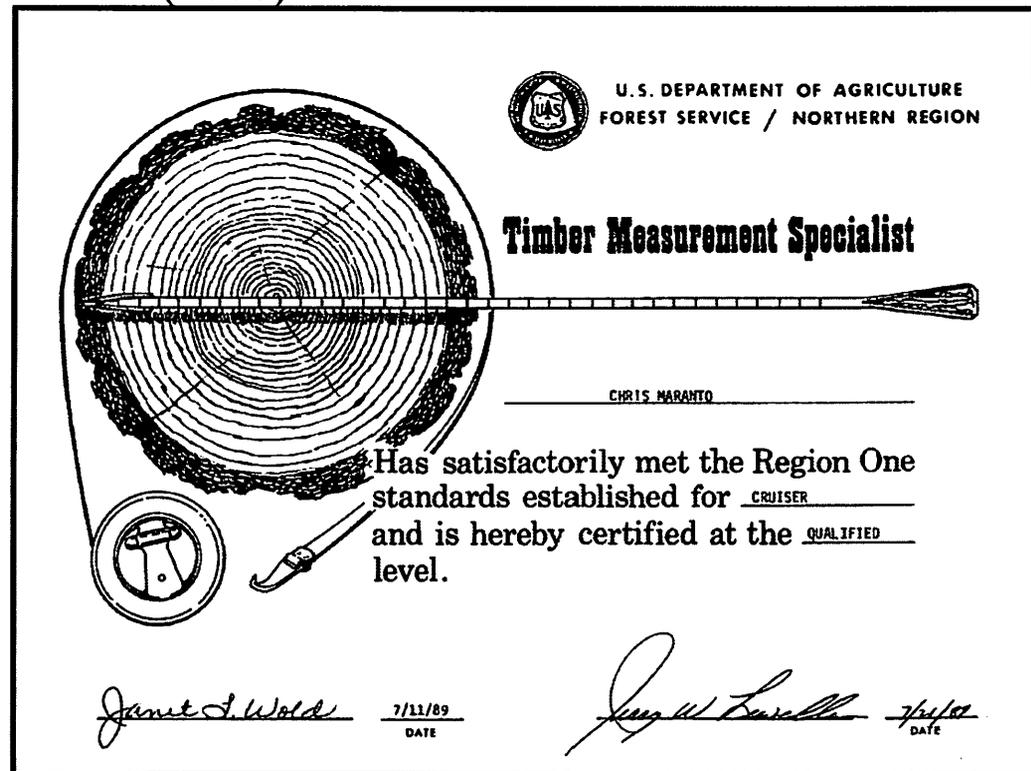
CALFIRE

NTMP Subgroup Presentation

- Properly Assessing for Sustained Yield;
 - CALFIRE’s 2006 Growth & Yield Guidelines for NTMPs
 - Stand typing
- **Assembly Bill 2170**
Working Forest Management Plan
- Monitoring Harvest Activity
 - The BOE Connection
- Recent developments in NTMPs: Projecting future growth

Chris Maranto, RPF 2502, CF 772 CALFIRE Sustained Yield Forester

- 1990 BS Forest Resources-Mgt. Option, Idaho
- 1993 MS Forest Resources-Quantitative Silviculture, Idaho
 - Thesis: Response of Douglas-fir advance regeneration to overstory removal in Central Idaho
 - USFS Research Paper RMRS-RP-73 (2008)



Chris Maranto, RPF 2502, CF 772
Background

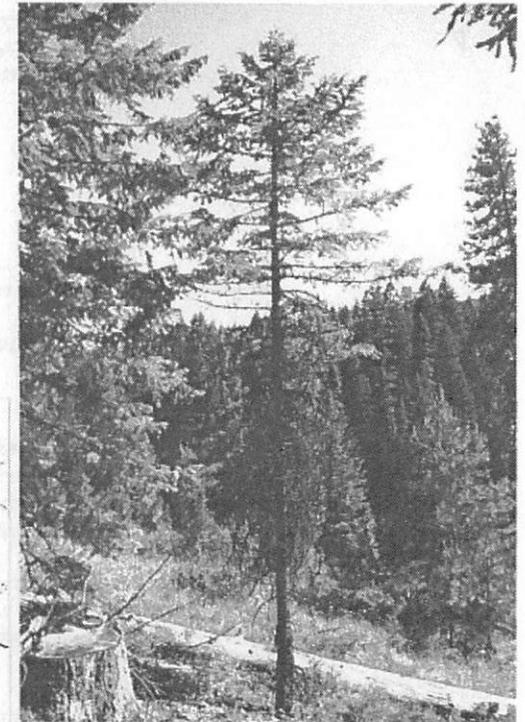
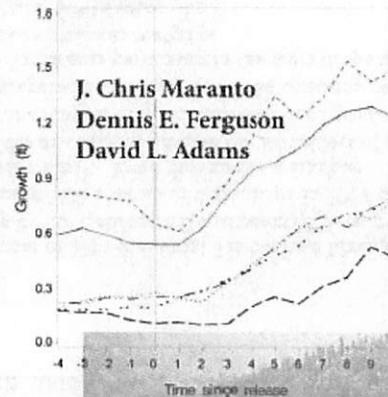
Idaho

- 1987-1990 (school months), Forest Nursery Tech
- 1987, Salmon NF, Thinning/Sanitation Crew; Type 2 Handcrew
- 1988-89, St. Joe NF, Timber Sale Layout Crew; Cert. Timber Cruiser; Type 2 Handcrew
- 1988 (weekends), IDL, engine crew
- 1990, Potlatch Corp., Operations Forester
- 1990-93, Grad Student, USFS Rocky Mtn Res. Sta.

California

- 1993-1996, Consulting Forester, Willits. (THPs: 7/4)
- 1997-2000, Growth & Yield Forester, Redding. (≈12 industry Option A's)
- 2000+, CalFire

**Response of
Douglas-fir
Advance
Regeneration to
Overstory
Removal**



CALFIRE's Growth & Yield Guidelines for NTMPs

Non-industrial Timberland Management Plan

GROWTH AND YIELD GUIDELINES

By
Department of Forestry and Fire Protection
March 2006

Workshops

In response to public concern over the high number of Non-industrial Timberland Management plan (NTMP) returned as unacceptable for filing by the California Department of Forestry and Fire Protection (CDF, Department), the Department held a series of workshops in 2004 with registered professional foresters (RPFs) and landowners. Even though the workshop participants raised many issues, the majority of the discussions centered on the subject of growth and yield information provided in plans as a demonstration of maximum sustained production of high quality timber products (MSP). CDF has prepared a summary of all the concerns raised during the workshops. The summary and other documents pertaining to the workshops are posted at the Forest Practice Publications and Memorandums webpage (http://www.fire.ca.gov/php/rsrc-mgt_forestpractice_publications.php.)

The Department recognizes that many other issues in addition to growth and yield in NTMPs are of concern to attendees at the workshop. However, since so much time was expended in discussion of growth and yield, the Department has prepared this guidance document to assist consulting foresters, landowners and CDF staff in addressing this complex subject matter.

Addressing Growth and Yield in NTMPs

Introduction

Neither the Forest Practice Act (Act) nor the Forest Practice Rules (Rules) provide a prescriptive approach to the informational requirements required to assess growth and yield in NTMPs. This analysis falls within the area of expertise of a "professional forester" as defined under FRC's

CALFIRE's Growth & Yield Guidelines for NTMPs

(sample of contents)

- Derived benefits of participating in the NTMP program
- Identified 4 core elements that define a management plan
- Review of important concepts re. sustained yield
- What constitutes a “Demonstration” and unsupported representations
- Commonly used models for growth & yield analyses
- Inventory stratification
 - aka, **Stand Typing**; is it necessary in appraising sustainability?
- Regulatory requirements and guidance
- Project complexity-RPF technical skills

Participating in the NTMP Program

Benefits, Regulatory Relief, Obligations

The Forest Practice Act specifies that NTMPs shall demonstrate sustained yield following a management plan constructed about a prudent course of action professionally planned to achieve over time a balance between growth and harvest. In exchange for a clear program of timberland management, the landowner derives three benefits:

- Provides economic relief in that subsequent harvest activity is pre-approved, with the ability to commence harvesting on a same-day notice to CALFIRE and thus capitalize on market fluctuations;
- Provides regulatory certainty to a degree by “sheltering” the NTMP from subsequent rule changes--subject to certification by the RPF--that the operations are consistent with (a) best managements practices, or (b) is consistent with the approved NTMP, will not degrade beneficial uses of water, soil stability, forest productivity, or wildlife or be in violation of applicable legal requirements;
- Requires amendment of the NTMP when there has been a new listed species, or when there have been significant physical environmental changes in the cumulative impacts assessment area.

NTMP Growth Projections

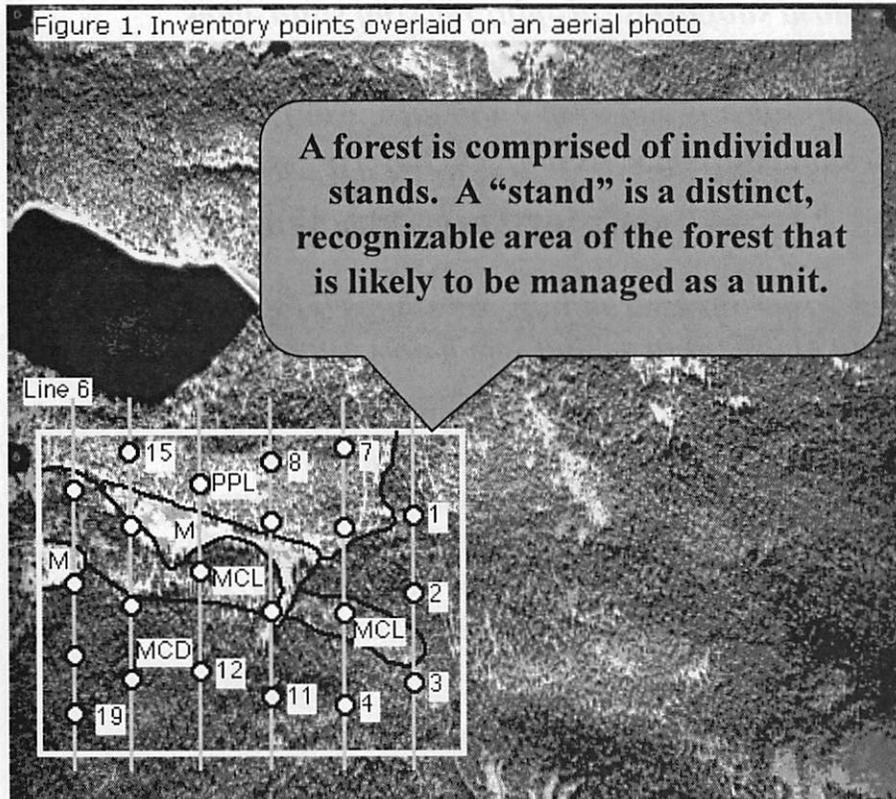
5 Types Of Methodologies Utilized in Calif.

- 1) **% of inventory:** Growth & harvests are based on a % of inventory. (e.g. 20,000 x 3% growth = 600 BF/yr).
- 2) **Yield Tables:** Growth projections are based on “dialing-in” subject stand into yield table (e.g. Lindquest & Palley-1960, Schumacher- 1951).
- 3) **Stand Table Projection:** Future growth projections based on measurement of previous increment of diameter growth. Tree species and diameters must be sampled in proportion to occurrence.
- 4) **Individual Tree Model:** CACTOS, CRYPTOS, FORSEE, Forest Visualization System, etc.
- 5) **Soil Descriptions.** Growth obtain from Soil Survey descriptions. (MAI)

Board of Forestry

- Periodic review of Regulations
 - 2010 ~ 2011
 - Review on the adequacy of the NTMP rules
 - CALFIRE attempted to have BOF review, discuss and ultimately endorse 2006 Growth & Yield Guidelines for NTMP
 - Substantial opposition to Dept guidelines

Basic Building Blocks in Sustained Yield Planning



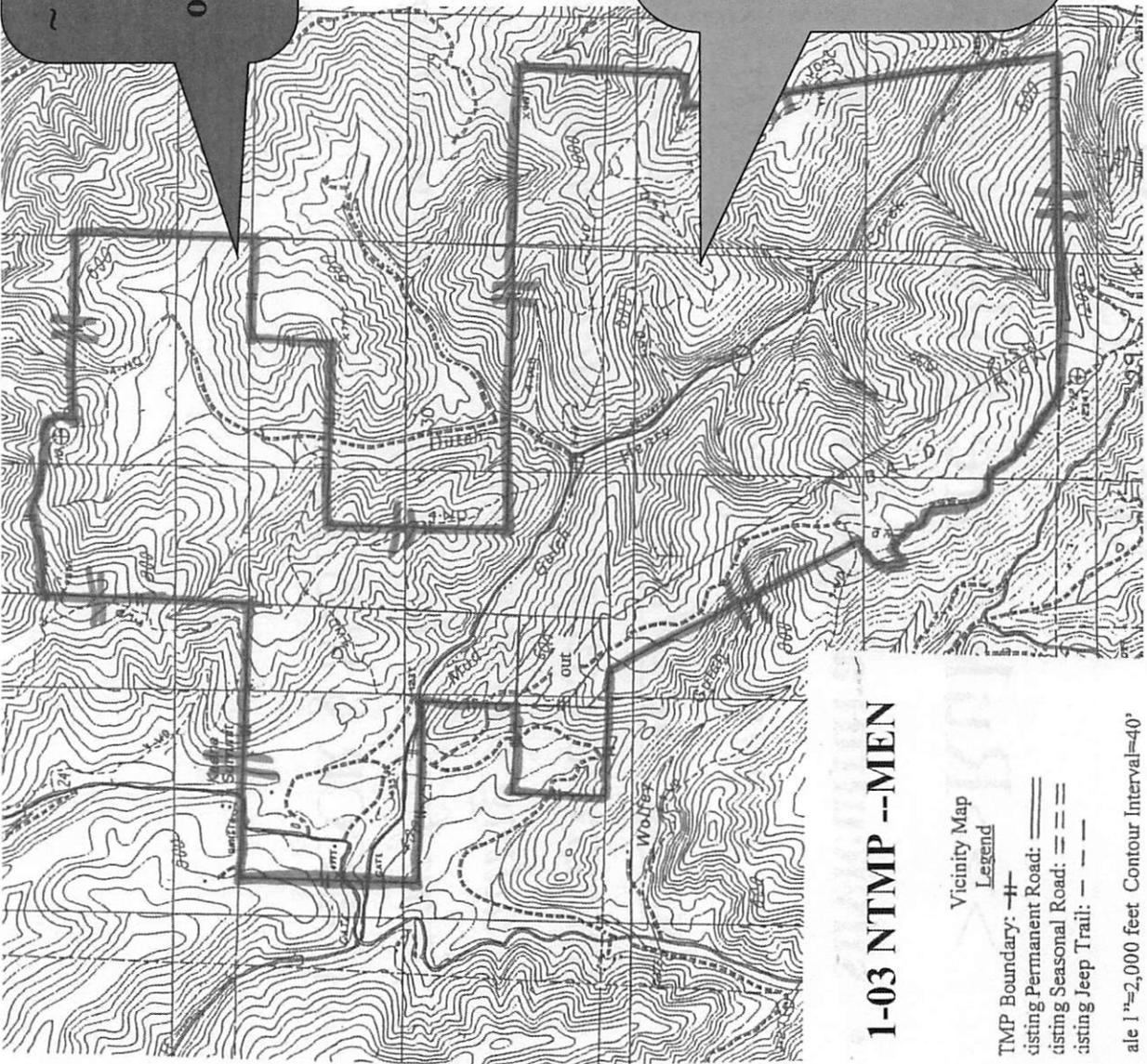
- “**Stand**” means a geographically identifiable group of trees sufficiently uniform in age-class distribution, composition, and structure, and growing on a site of sufficiently uniform quality, to be a distinguishable unit.
- “**Stand Type**” means a class of stand defined for silvicultural or management purposes, usually according to composition, structure, and age.

What is a *Stand*?

1,000+ acre NTMP approved 2000

- **Sacramento Biometrician May 4, 2000, review question #6:**
 - *“This prescription is applied to 933 acres. The current stocking ranges from 20 to 150 square feet per acre. These facts suggest it may be desirable to break out the better stocked stands for transition or selection. Please discuss.”*
- **RPF’s June 14, 2000 reply:**
 - *“The entire ranch was logged at the same time, and therefore, stands are similar over the entire parcel.”*
- **Region final reply July 24, 2000:**
 - *“The NTMP implied that site classifications range from II to V with more than one site quality class located on any one management unit. Additionally, some units have multiple prescriptions proposed within them and as such different stocking standards. To better illustrate management goals and objectives...stand table projections should be specific to each of these variables.”*





~ 2,050 acres; One "stand", 205 BA, 24 MBF/ac, Site III; Constant growth rate 3.5% over 20 years. Target: 340 BA, 40 MBF/ac.

Field review: At least 4 - 6 stand types based on density, age, conifer composition, and hardwood issues. Additional strata when factor site class differences.

1-03 NTMP --MEN

- Vicinity Map
 Legend
 TMP Boundary: -H-
 Existing Permanent Road: ==
 Existing Seasonal Road: - - -
 Existing Jeep Trail: - - - -

Scale 1"=2,000 feet Contour Interval=40'

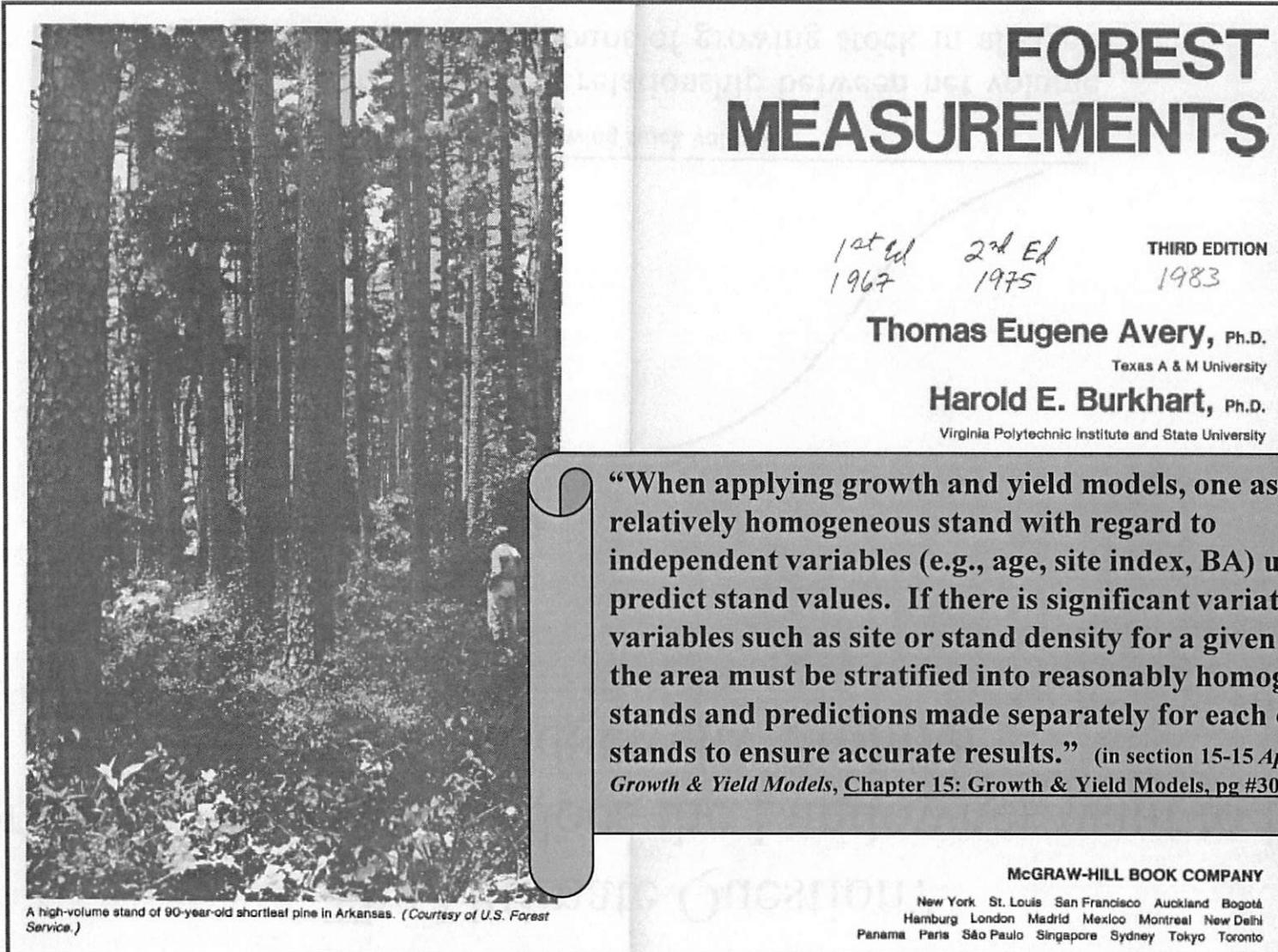
What is a *Stand*?

>>>Rules are Silent except for<<<

- **silvicultural system** {emphasis added}

*“the planned program of forest stand treatments during the life of a stand. It consists of a number of integrated steps conducted in logical sequence leading to or maintaining a **forest stand** of distinctive form for the level of management intensity desired”*
(14 CCR § 895.1).

Is Stratification Necessary for Making Accurate Projections of Growth and Harvest?



FOREST MEASUREMENTS

1st Ed. 1967 2nd Ed. 1975 THIRD EDITION 1983

Thomas Eugene Avery, Ph.D.
Texas A & M University

Harold E. Burkhart, Ph.D.
Virginia Polytechnic Institute and State University

“When applying growth and yield models, one assumes a relatively homogeneous stand with regard to independent variables (e.g., age, site index, BA) used to predict stand values. If there is significant variation in variables such as site or stand density for a given area, the area must be stratified into reasonably homogeneous stands and predictions made separately for each of these stands to ensure accurate results.” (in section 15-15 *Applying Growth & Yield Models*, Chapter 15: Growth & Yield Models, pg #303.)

McGRAW-HILL BOOK COMPANY
New York St. Louis San Francisco Auckland Bogotá
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Panama Paris São Paulo Singapore Sydney Tokyo Toronto

A high-volume stand of 90-year-old shortleaf pine in Arkansas. (Courtesy of U.S. Forest Service.)

The Ultimate Question?

For each Stand, where does the Landowner want to be on the Productivity Frontier

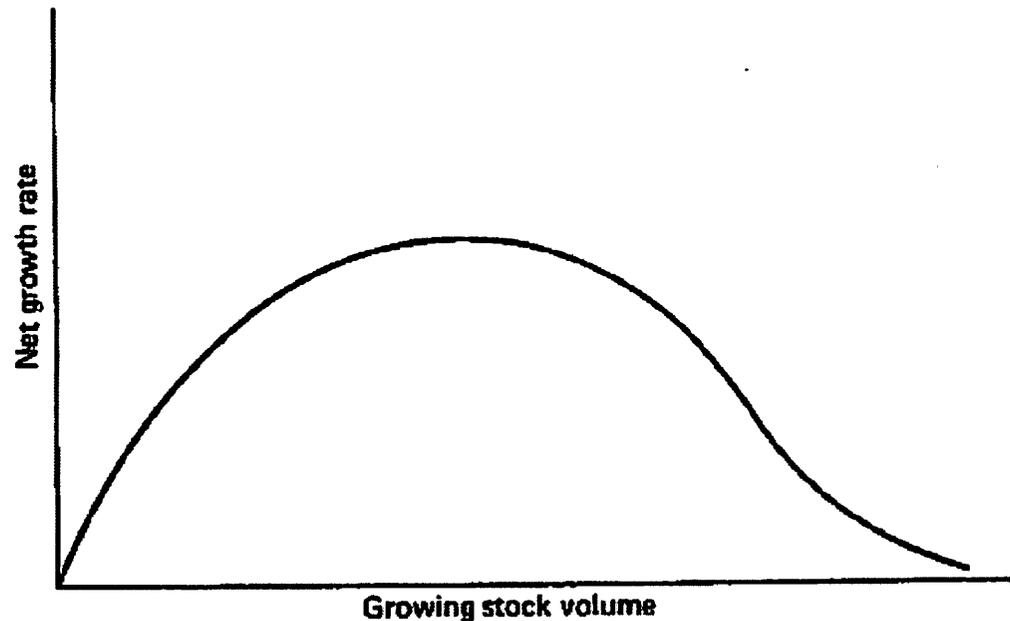
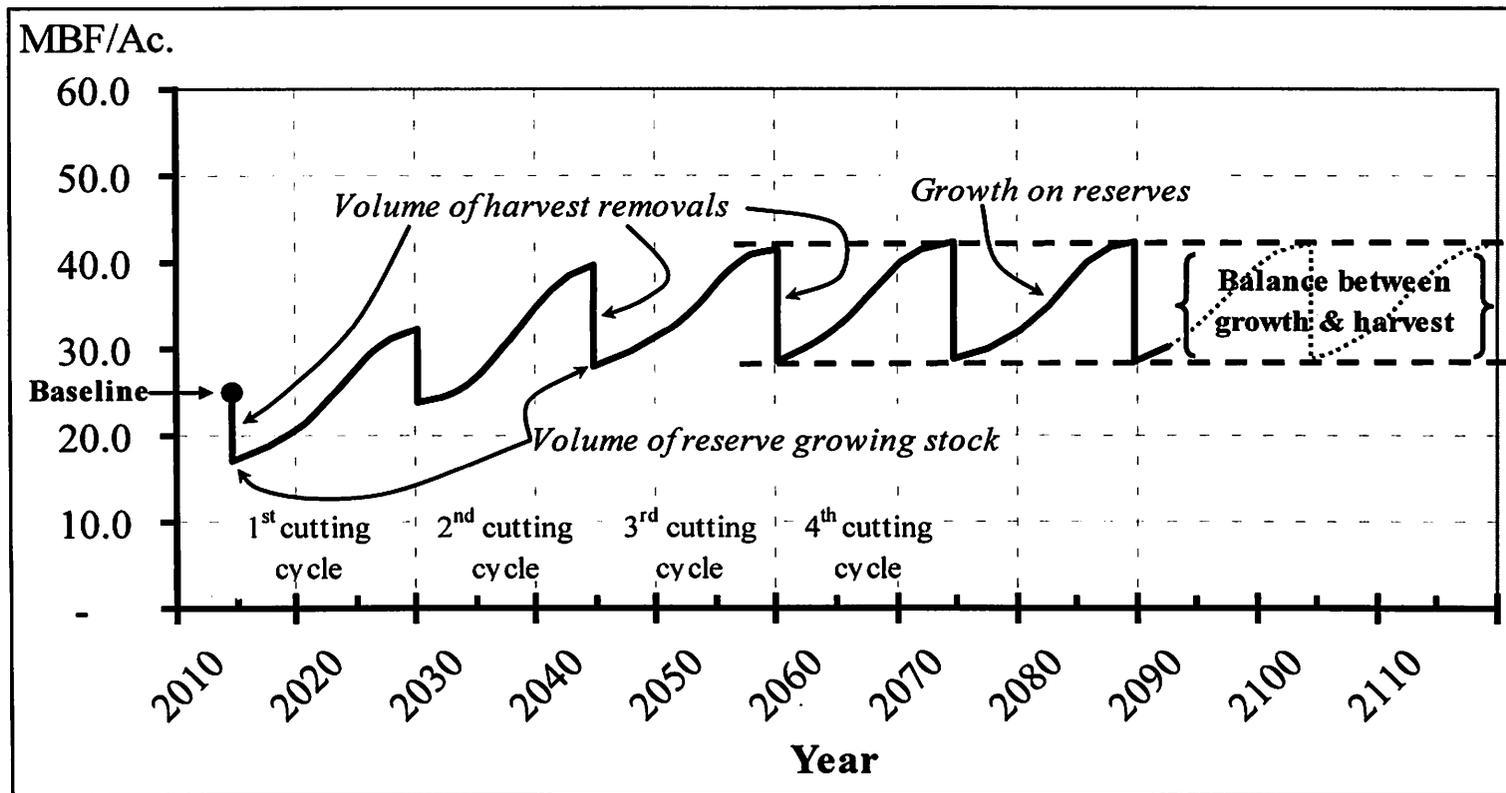


Figure 3.2 General relationship between net volume growth rate and amount of growing stock in all-aged stands.

{Source: Clutter, et al. 1983. Chapter 3: Growing Stock and Stand Density in Timber Management; A Quantitative Approach.}

What does Balancing Growth with Harvest Over Time mean?

- **Lifeline in the transition to a balanced uneven-aged stand where projections of growth and harvest converge to a balanced condition.**



Acreage Summary Of NTMPs By RPFs (through 10/2003, excludes RPFs having lesser acreages)

Total Acres	Last Name	First Name	Total Plans	Total Acres	Last Name	First Name	Total Plans
12,628	COHOON	DANIEL	16	2,419	CHILDS	STEVEN	13
10,522	SOLINSKY	WILLIAM	13	2,303	GAMBLE	MERVIN	1
9,838	KENT	NICHOLAS	24	2,269	WEBSTER	ROY	8
9,016	HOWARD	GARY	8	2,237	SANDELIN	THOMAS	4
8,094	BLENCOWE	CRAIG	11	2,069	DORRELL	WILLIAM	4
7,894	ABLE	JAMES	23	2,042	BEBENSEE/SCHOENHEIDE	DENNIS/RICHARD	2
7,364	JACOBSZON	RANDALL	20	1,967	EDWARDS	GLENN	5
7,054	HOWELL/MOTL	MICHAEL/TIMOTHY	9	1,871	MCMAHON	TODD	1
6,815	MAHONEY	DARCIE	20	1,862	LAUNI	STEPHEN	3
6,237	POSSEHN	DENNIS	12	1,810	HUNT	MITCHELL	5
6,186	HOHMAN	STEPHEN	7	1,746	MANLY	TIMOTHY	3
5,946	ANDERSON	CARL	5	1,675	JANI/STAUB	MICHAEL/STEPHEN	2
5,678	STEWART	MARK	9	1,656	LEWICKI	FRANK	1
5,565	MANICH	LEON	9	1,540	RUEGER	BRIAN	1
5,327	CARROLL	CHRISTOPHER	7	1,499	STAUB	STEPHEN	5
4,893	KENNEDY	CLIFTON	3	1,460	BOWMAN	HAROLD	6
4,861	CIANCIO	CHARLES	10	1,458	ARNOLD	PETER	2
4,738	CLARK	JAMES	6	1,394	OSTERHOUDT	DONALD	2
4,263	TALBERT	BRIAN	7	1,341	ATKINS	MICHAEL	5
4,169	WHITEHORN	STEPHEN	5	1,320	DAVIS	GERARD	1
4,159	SUSAN	LEE	18	1,314	RYNEARSON	GARY	1
3,613	PIEPER	JOHN	7	1,275	ROGERS	TERRY	2
3,401	COLLINS	MARK	10	1,260	MCKINSTRY	STEVEN	3
3,309	KELLEY	ROBERT	4	1,202	ANDRE	MARK	2
3,264	HARVEY	JAMES	5	1,154	DANN	WILLIAM	2
3,049	WIESE	RANDALL	6	1,131	CULVER	JOSEPH	2
2,904	BERRYMAN	RONALD	4	952	SELLARS	DAVID	1
2,897	LONGCRIER	JEFFREY	8	929	RICHARDSON	CHARLES	3
2,868	FISCHER	NIEL	6	914	URDAHL	GARY	2
2,805	NEMIR	PHILIP	4	872	TOLMIE	CRAIG	1
2,769	HUFF	ERIC	2	868	BELDEN	GEORGE	4
2,693	TOWN	CHRISTOPHER	5	866	TARNAY	STEVE	3
2,628	MOLEN	KIRBY	6	833	TATE	TIMOTHY	2
2,570	VANDERHORST	STEVEN	7	768	SMYTHE	THOMAS	1
2,488	ELSBREE	ANDREW	20	753	BALDWIN	KENNETH	2
2,461	CHAPIN	JAMES	6	747	CURTIS	CHRIS	3
2,452	HINEY	WILLIAM	3	725	MACMULLIN	ROBERT	3
2,447	GAMAN	THOMAS	2	706	STAUB/VAUGHAN	STEPHEN/CASSADY	15
2,441	NEWMAN	CRAIG	3	690	SMITH	STEPHEN	2

CALFIRE's 2006 G&Y Guidelines

BOF Endorsement?

- November 2010, BOF meeting
- Forest Management Committee Chair Dr. Doug Piirto comments directed towards Charles Greenlaw (next 2 slides) and audience (3rd slide):

“Charles you make some important points, but understand we’re hear because there has been substantial variability in what RPFs have submitted and in some cases that was judged to be not adequate and it was felt that we needed to provide some clarity--and you know this--clarity to what’s expected in the context of what the law requires—maintaining the long-term productivity of California’s forestlands. And I think, as I read this document, you know there are whole text books that are 600 to 1000 pages long on the subject of growth and yield. So this is a significant abstracting of basic principles that are known to...with reference to long-term sustained yield and projecting—in a professional manner—our best estimates. Right, I concur with your comment that we can’t predict what we are going to do 10 years from now or 20 years from now but I don’t think that is what this document is requiring.

This document is basically saying, out the outset do your best to try to project for the time period that you think you can balance growth and yield. That could be 30 years, that could be 60 years, it depends on the size of the ownership. That could be done almost on the back of an envelop, or with a stand table projection. Or you could go and use CRYPTOS, CACTOS or now the more modern updated FORSEE, depending on the landowner's capability and financial status. What this is just doing [Dept. guidelines] is saying to the forester, here's some basic direction, this is what they~not direction~guidance in relationship to what's expected in a professional growth and yield assessment. And, I don't know what else I can say Charles, but I don't understand why there is so much consternation over this document. It's difficult for me...this is just basic professional practice and all we're trying to do, without mandating it, is trying to say, look, there are some expectations in relationship to what a good LTSY projection is."

“Well, um, if I could just speak for, as an RPF right now. I felt that this document was long over due. We had to do growth and yield projections for Swanton Pacific, our school forest and we just didn’t quit know what was fully expected of a complete growth and yield analysis and we teach the subject. And I know we had quit a few pointed discussions with Chris about that subject by Steve Auten and our agent Big Creek Lumber Company. And that was years, several years ago and there was a cloud, a little bit of a cloud there in terms of professional expectations of a cost effective growth and yield analysis. So, speaking for Doug Piirto as an RPF, I step back as my roll as a chair, I’m saying that I feel that this document is something that will help RPFs providing some general guidance, not mandated guidance, but general guidance on what constitutes a professional approach to the subject. It can be done in a cost effective manner with a stand table, it can be validated with a FORSEE analysis. I think there’s quit a range of a flexibility there, if I’m understanding all this right, but it has to be defensible, it has to be defensible. If it’s not defensible, it’s not professional.”

Assembly Bill 2170

Working Forest Management Plan

AMENDED IN SENATE JUNE 14, 2012

AMENDED IN ASSEMBLY MAY 2, 2012

AMENDED IN ASSEMBLY MARCH 29, 2012

CALIFORNIA LEGISLATURE—2011–12 REGULAR SESSION

ASSEMBLY BILL

No. 2170

Introduced by Assembly Members Chesbro and Dickinson

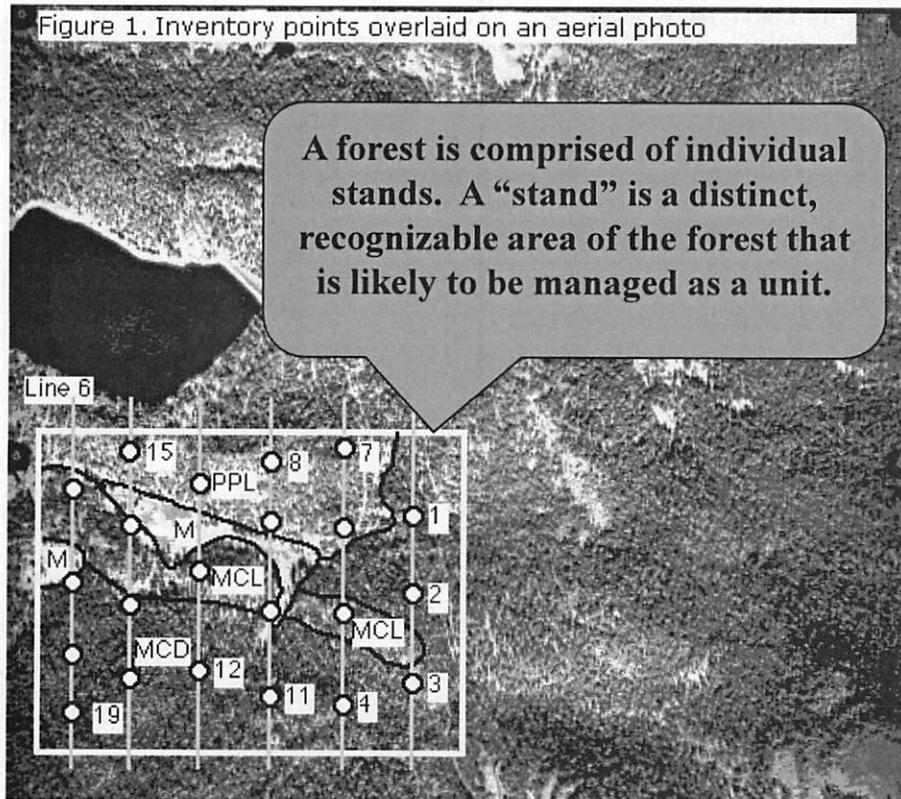
February 23, 2012

*An act to ~~amend Section 4593.8 of, and to add Section 4594.8 to,~~
add Article 7.7 (commencing with Section 4597) to Chapter 8 of Part
2 of Division 4 of the Public Resources Code, relating to forest resources.*

LEGISLATIVE COUNSEL'S DIGEST

AB 2170, as amended, Chesbro. ~~Forest resources: nonindustrial
timber management plans. Forestry: working forest management plan.~~
*(1) The Z'berg-Nejedely Forest Practice Act of 1973 prohibits a
person from conducting timber operations on timberland unless a timber*

Basic Building Blocks in Sustained Yield Planning



Definitions added to WFMP

- “Stand” means a geographically identifiable group of trees sufficiently uniform in age-class distribution, composition, and structure, and growing on a site of sufficiently uniform quality, to be a distinguishable unit.
- “Stand Type” means a class of stand defined for silvicultural or management purposes, usually according to composition, structure, and age.

What is a *Stand*?



- “Planning unit” means a geographically identifiable polygon delineated for silviculture or management purposes that is integrated into developing a harvest schedule for the planning horizon. A planning unit may be as large as a stand or smaller when necessary to address specific resource sensitivities or to schedule future harvest activity across the planning horizon for sustained yield.
- “Major stand type” means a stand that occupies an area equal to or greater than 25 percent of a working forest management plan.

Sustained Yield Planning

- “Sustained yield” means the yield of commercial wood that an area of commercial timberland can produce continuously at a given intensity of management consistent with required environmental protection and that is professionally planned to achieve over time a balance between growth and removal. Sustained yield management implies continuous production planned so as to achieve, at the earliest practical time, a balance between growth and harvest. (last statement incorporated into WFMP legislation)

Conclusions—WFMP Legislation

- Basic definitions incorporated
 - Stand, stand type, planning unit, major/minor stand types
 - “Sustained yield” enhanced
- Defined statistical standards for major and minor stand types present (i.e. 15% and 25% SE).

Monitoring Harvest Activity

~The BOE Connection~

- Reciprocal Agreement for Exchange of Information between BOE and CDF
- Executive Order, 1982, Governor Edmund G. Brown Jr.
- Data confidential
- For individual NTMPs, track Yield Tax reports (self-reporting) and cross reference with mill reports.

Monitoring Harvest Activity

The BOE Connection

- 2002 NTMP (200-acres)
 - Baseline 19.947 MBF/ac.
 - Initial 9 years harvest 17 MBF/ac. (55% OH)
 - Dec. 2010 RPF re-inventory report 21 MBF/ac.
 - 2011 Dept cruise average 20 MBF/ac.
 - Dept back-dating analysis determined original baseline inventory closer to 33 MBF/ac.

More Recent Developments

NTMP Review

- Growth projections not Accounting for Harvest
 - Original plan sought to harvest 1.83 million BF (MMBF) over first 15 years
 - 206-ac. NTMP had not been Stand Typed. PHI observed 3 stand types.

Growth Projections not Accounting for Harvest

Stand Table Growth Projection Ten Years
Group Selection (206 acres)

DIA	10 YR. GROWTH	MOVEMENT RATIO	# TREES PRESENT STAND	BF VOLUME TREE	# TREES FUTURE STAND	<i>No. of trees moving up "x" diameter classes.</i>					BF VOLUME PRESENT	BF VOLUME FUTURE
						0	1	2	3	4		
8"	2.00	1.00	1,377	10	0	0	1,377	0	0		13,770	0
10"	3.04	1.52	1,404	20	1,377	0	674	730	0		28,080	27,540
12"	2.23	1.12	1,755	35	674	0	1,544	211	0		61,425	23,590
14"	2.01	1.01	1,053	72	2,274	0	1,042	11	0		75,816	163,728
16"	2.34	1.47	1,107	123	1,253	0	919	188	0		136,161	154,119
18"	2.26	1.13	918	220	930	0	799	119	0		201,960	204,600
20"	2.47	1.24	999	256	987	0	759	240	0		255,744	252,672
22"	2.11	1.06	675	394	878	0	635	40	0		265,950	345,932
24"	1.96	0.98	540	533	886	11	529	0	0		287,820	472,238
26"	2.43	1.22	513	822	569	0	400	113	0		421,686	467,718
28"	1.94	0.97	648	939	419	19	629	0	0		608,472	393,441
30"	2.24	1.42	297	1,183	742	0	261	36	0		351,351	877,786
32"+	2.20	1.10	378	1,835	675	0	340	38	0		693,630	1,238,625
TOTAL			11,664		11,664						3,401,865	4,621,989

GROWTH(BF)	1 YEAR	122,012
GROWTH(BF)/ACRE/YEAR		592
GROWTH(BF)	15 YEARS	1,830,180

Description	Starting Volume	Growth	Harvests	Ending Volume
Start 2009	3,402	0	0	3,402
Harvest 2024	3,402	1,830	1,830	3,402
Harvest 2039	3,402	2,035	2,000	3,437
Harvest 2054	3,437	2,240	2,000	3,677
Harvest 2069	3,687	2,448	2,400	3,712
Harvest 2084	3,712	2,650	2,400	3,942
Harvest 2099	3,982	2,855	2,400	4,417
Harvest 2114	4,417	3,060	3,060	4,417

Growth Projections not Accounting for Harvest

- Original plan sought to harvest 1.83 million BF (MMBF) over first 15 years
- Department rejected original plan; resubmitted based on 3 stand types and using FORSEE computer model. Harvest decreased to 702 MBF—62% reduction.
- Conclusion: The lack of a stratified inventory (stand types) and not accounting for post-harvest stocking in developing a long-term projection of sustained yield could produce an over-harvest.