

Maine Spruce Budworm.....connecting the dots

Pleased to be back in “The County” It’s where I started my Forestry career, and fitting to today’s discussion, most of it, in one way or another, dealing with budworm. This is the first time I’ve been asked to speak because I’m “old” enough to have been there.

When I left Maine in 1972 the trees were green, the roads were few and the prevalent cutting was diameter limit. Millions of cords and board feet were marked this way by summer crews. When I returned to live in Ashland in 1977, the trees were gray-- we were still marking stands for harvest because people probably didn’t believe where this infestation would go or how long it would last. There was no one around from 1917 to tell us.

So we hurriedly built roads to infested stands. Starting in 1977, at least where I was, we clearcut the stands that had been marked the year before -- even as summer timber cruisers marked more. Where we had thinned the marked stands that we thought were stronger, we went back in 6 to 12 months and clearcut them. It was very sad and felt futile.

No one believed this bug would take over our silviculture. I remember thinking a few years later that we were raising a generation of young foresters who’s only field experience was mostly road building and clearcutting.

Just trying to utilize that wood was a real challenge; finding markets, prices depressed because the supply was rising and the quality of the wood was going down, and mills absorbing huge wood costs to handle damaged timber. I remember an economic analysis I did with fully absorbed cost including stumpage and loss where S-F railed chips to the mill from Ashland and St. Francis cost over \$47/ton—in 1977.

The rest of my *connect the dots* observations are going to be a bit like Chris Berman’s fastest three minutes in football.

The first DOT - Budworm 1975-1985

- **Diameter limit cutting**
- **Limited roads**
 - i) **Many areas unroaded**
- **Spraying to hold trees till harvest**
 - i) **No spraying in deer yards**
 - (1) **Even after introduction of BT**
 - (a) **A mistake not to use BT in riparian areas**
 - (2) **Result was massive breakup and loss of many deer wintering areas - almost all at once**
- **The beginning of the downward spiral for Deer Wintering Areas-- quality cover diminished by: (Marc Stadler 10-19-09)**
 - i) **Budworm**
 - ii) **Old Age**
 - iii) **Demand for mature softwood by markets developed to use the surplus wood**
- **And trees or stands we thought were saved or resistant started to die 5 and 10 years later-- in a process I called *Post Budworm Syndrome***

2) The next DOT- Change -- Things Really Changed

- **Spawned Clearcutting for Salvage Harvesting**
- **At the same time huge capital investment in two new pulp mills in the state**
 - i) **Investor landowners now scared to death about what was happening to the wood supply**
- **Landowners, pulp mills & sawmills lost a lot of money**
 - i) **From timber that died**
 - ii) **From timber that exploded in the chipper**
 - iii) **From huge Fiber loss in the digesters**
- **Situation Pushed Innovation**
 - i) **Harvesting Equipment (Koerings, JD 747, grapple skidders, shears)**
 - ii) **Intensive forest management**
 - (1) **Roads—to get at worst stands**
 - (2) **Site preparation**
 - (3) **Nurseries**
 - (4) **Planting**
 - (5) **Shelterwood took on a new respect and opportunity**
 - (6) **Investment by landowners (to protect mills future supply)**
 - (7) **Herbicide**
 - (8) **Precommercial & commercial thinning to optimize growth**

iii) Research

(1) USFS

(a) Work of Bob Frank was monumental as we desperately tried to figure out what to do. Stocking guides took on new meaning.

(b) Gordon Mott tried to get into the head of a budworm and explain it to the rest of us.

(2) CFRU

(a) Herbicide & thinning Work of Max McCormack among the top two experts in the nation

(3) In Early 80's Industry responds to the challenge to grow more trees.

Many Maine Companies opened research centers and nurseries

(a) IP; GNP; SD Warren; GP; Irving; Fraser

- **Then came the first Forest Practices act 1989 over concerns for clearcutting and that the "rapid development of new pulp mills" may cause overharvesting**
- **Followed by the Clearcutting Referendums**
- **And the adjustment to the Forest Practices Act of 1996**

3) Cataclysmic Change in Habitat – The habitat DOT

- **Deer**
 - i) **Sudden loss of wintering areas over 1/2 the state**
 - ii) **Rapid and near total decline of herd in UT**
- **Moose**
 - i) **100M acres salvaged per year for 10 years**
 - ii) **Created 1 million acres of prime moose browse habitat**
 - iii) **Resurgence of Moose herd not seen since before the Depression**
 - iv) **Reintroduction of moose hunting in 1980**
- **Canada Lynx- Good data from CFRU**
 - i. **Lynx habitat requires large openings, some greater than 250 acres**
 - ii. **Lynx population rose to a highpoint as a result of budworm and resultant clearcut habitat**
 - iii. **FPA restricts large clearcuts**
 - iv. **Listing the Lynx at abnormally high populations while restricting the creation of habitat-- that may put landowners in an unwinnable situation**

4) Economic Changes -- The Economic DOT

- ***Maine Business Climate***
 - i) Dealing with a epidemic infestation, doing triage, desperately trying to find markets, and NGO's and Government playing an adversary role
- Industry faces **Competition for Capital**
- Permitting costs--Look at how hard it is to get permits for house lots in Greenville – 5 years and law suits still pending
- Wind power has been a real food fight
- What would support or opposition look like if someone proposed a new pulp & paper mill in Maine today?
- **Industry Faces Competition from Developing Nations**
 - i) Who are learning to Compete with their natural resources
 - ii) Attracting capital
 - iii) Building mills
- Finally, **landownership changes** have turned us upside down
 - i) Many “traditional landowners” are gone and the ownerships parcellized

5) Now “*The Wall of Softwood*” –The Spruce-Fir Ingrowth DOT is upon us

- It's an opportunity we need to get ready for
- The forces that brought that wall couldn't be practiced today
- Limited to almost no research
 - i) USFS has virtually left Dodge
 - ii) CFRU the biggest player—and it struggles for support today
- We Finally achieved an annual inventory with first measurement in 1999
 - i) Chuck Gadzik, Tom Doak and Dave Struble played big in that effort
- No industrial research facilities in Maine anymore
- No landowner nurseries
- Flat to declining moose herd
- Serious, even grave, deer decline in “The North Woods”
- Gaps in early successional stages of the forest
- Gaps in wildlife habitat
- Canada Lynx listed – rightly or wrongly

6) Economic *Growth* -- The Growth DOT

- Haven't built a Greenfield paper mill in the U.S. in 35 years

- i) Haven't built many oil refineries either—and we see where that gets us.....
- ii) 6 newest mills are:
 - 1. Verso's Andro, Jay ME
 - 2. Sappi Somerset, Hinkley, ME
 - 3. IP's Mansfield, LA
 - 4. IP's Quinnesec, MI
 - 5. Parsons & Whittemore's Alabama River, Monroeville, AL
 - 6. IP's Riverdale, Selma, AL
- iii) Think about it, the five newest pulp & paper mills in the United States of America are 35 years old

7) We Need a statewide dialog about (this may be the start):

- Forest practices
- Adjustments to discouraging and unscientific laws
 - i) "The FPA has absolutely nothing to do with silviculture"
- Policy and government and landowner commitment if epidemic reoccurs

8) The Big Picture

- Looking back, like today, is helpful but we better be developing a strategic plan for the future
- Remember the story of Dawn on the Serengeti plain
 - i) When the sun comes up on the Serengeti plain, If you're a gazelle, you better be able to run faster than the fastest lion -- or you'll be breakfast
 - ii) And when the sun comes up on that same plain, if you're a lion, you better be faster than the slowest gazelle or you'll starve to death
- Maine has been in fiscal crisis for almost all of the last 25 years. We're about to starve to death. We cannot cost-cut our way to prosperity. No company made it doing that. Long term it won't work. It just delays the inevitable.
- The central issue to our future is GROWTH !
- But that's a whole other topic beyond budworm

9) 2010 and the future beyond is a long way from 1975 Spruce Budworm -- but that little budworm caused a firestorm of

- forest destruction,
- political upheaval and
- economic consequences over the past 35 years.

We all live and work with consequences today—intended and unintended. These consequences have become our careers. Understanding the dynamics will help us chart a better and more prosperous tomorrow. Connect the dots.....the past -- leads to the future. CFRU is to be applauded for leading this discussion.

Thank you.

EPILOGUE

I was asked to name the top 5 to 10 things I would do based upon what I learned from the 1975-1985 epidemic.

- **Maintain FIA annual inventory**
- **Have gameplan with landowners and state (contingency planning) just like we have for forest fire. Agree before the crisis!**
- **Revise forest practices regulations biased against clearcutting to be silviculturally based**
- **Use BT**
- **Start spraying early in the cycle with small aircraft before populations climax**
- **Spray deer wintering habitat**
- **Harvest and restock worse areas**
- **Use alternate tree species**