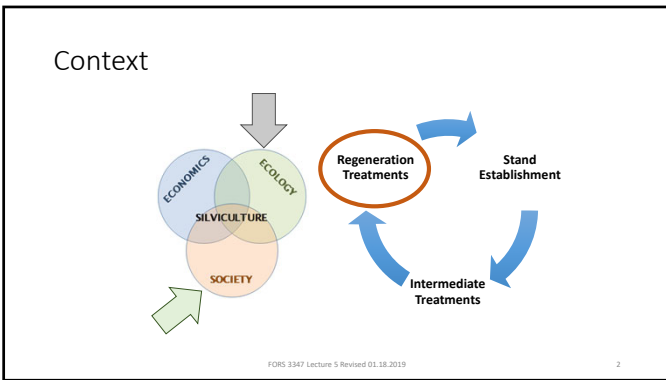


Silviculture
FORS 3347
 Instructor: Dr. Jeremy Stovall
 Lecture 5:
 Regeneration Methods - Clearcutting



Methods of Regeneration

Favors shade intolerant spp. ↔ *Favors shade tolerant spp.*

Even Aged	1. Clearcut	2. Seed-tree	3. Shelterwood
Two Aged 4. + Deferment		
Uneven Aged 5. With reserves		
	6. Patch selection	7. Group selection	8. Single tree selection

FORS 3347 Lecture 5 Revised 01.18.2019 3

Clearcut

- A method of regenerating an **even-aged** stand in which
- A new age class develops in a **fully exposed microclimate**
- Following removal, in a **single cutting**,
- Of **all trees** in the previous stand.

- Regeneration is from
- Natural seeding,
 - Direct seeding,
 - Planted seedlings, and/or
 - Advance reproduction.



In the Clearcutting System, the management unit or stand in which regeneration, growth, and yield are regulated consists of the individual clearcut stand.

Adams, D. L., L. D. Hodges, D. L. Goffin, L. N. Long, R. S. Seymour, and J. A. Helms. 1994. Silviculture Terminology with Appendix of Draft Ecosystem Management Terms. Silviculture Instruction Subgroup of the Silviculture Working Group of the Society of American Foresters. Located at: http://web.ces.missouri.edu/silviculture/silviculture_terminology.html. Accessed on: 1/20/2021.

Commercial Clearcut vs. Cleancut

Removes Merchantable Stems



Removes (or fells) all stems



Clearcut & Site Prep vs. Cleancut



Commercial Clearcut



FORS 3347 Lecture 5 Revised 01.18.2019

7

Commercial Clearcut



FORS 3347 Lecture 5 Revised 01.18.2019

8

Commercial Clearcut Mimicking Natural Disturbance



FORS 3347 Lecture 5 Revised 01.18.2019

9

Cleancut



Norbert Frank University of West Hungary bagwood.org 5389174

FORS 3347 Lecture 5 Revised 01.18.2019

10

Cleancut



UGA1442179

FORS 3347 Lecture 5 Revised 01.18.2019

11

Clearcutting: Operations



FORS 3347 Lecture 5 Revised 01.18.2019

12

Clearcutting: Operations



FORS 3347 Lecture 5 Revised 01.18.2019

13

Clearcutting: Operations



FORS 3347 Lecture 5 Revised 01.18.2019

14

Clearcutting: Operations



Dangle-Head Feller in Oregon



Steep slope logging in Chile

FORS 3347 Lecture 5 Revised 01.18.2019

15

Clearcutting: Operations



Tethered Logging a Steep Slope w/ Remote Operated Bulldozer

FORS 3347 Lecture 5 Revised 01.18.2019

16

Clearcutting: Operations



FORS 3347 Lecture 5 Revised 01.18.2019

17

Clearcutting: Operations



FORS 3347 Lecture 5 Revised 01.18.2019

18

Clearcutting: Operations



FORS 3347 Lecture 5 Revised 01.18.2019

19

Clearcutting: Operations



FORS 3347 Lecture 5 Revised 01.18.2019

20

Clearcutting: Operations



FORS 3347 Lecture 5 Revised 01.18.2019

21

A 6-Log Load Stuck in Log Truck Douglas-Fir in Oregon



FORS 3347 Lecture 5 Revised 01.18.2019

22

Clearcutting and Soil Erosion



Clear cut - spring 2001



Fall 2001 - 120 days later

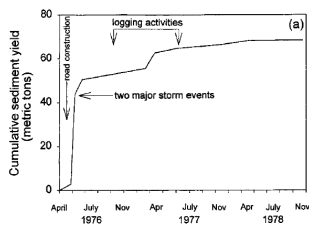


Fall 2003 - 3 growing seasons later

FORS 3347 Lecture 5 Revised 01.18.2019

23

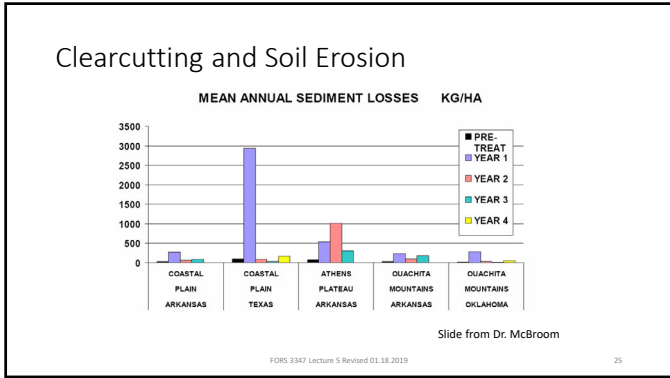
Clearcutting and Soil Erosion Coweeta LTER

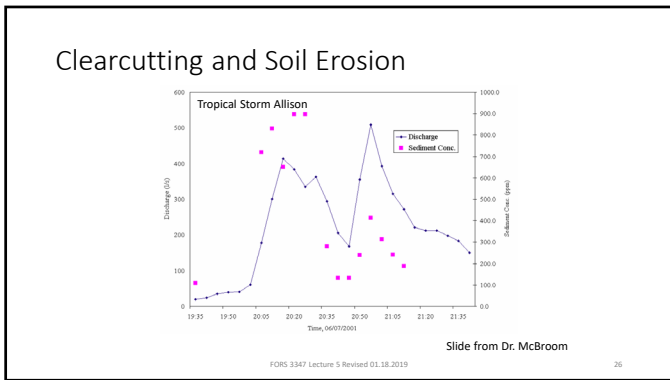


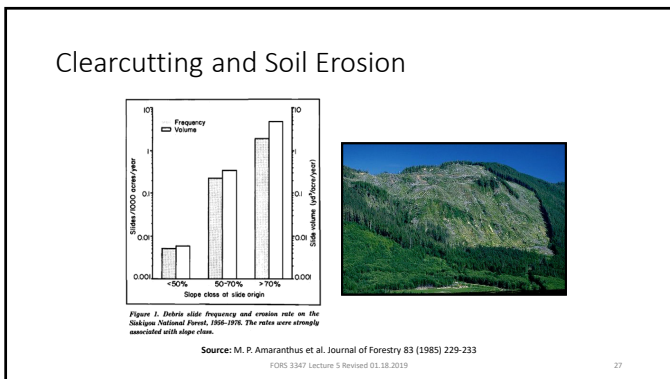
Source: W.T. Swank et al. Forest Ecology and Management 143 (2001) 163-178

FORS 3347 Lecture 5 Revised 01.18.2019

24







Coastal Mixed Conifers in Oregon after Cable Yarding



FORS 3347 Lecture 5 Revised 01.18.2019

28

Monongahela Clearcutting Case

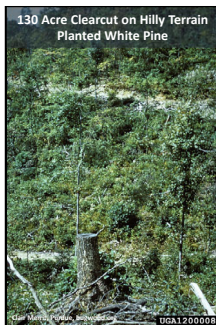


FORS 3347 Lecture 5 Revised 01.18.2019

29

Monongahela Clearcutting Case

- Forest Service switches from partial harvest methods to clearcut in east in 1964
- Based on research that showed
 - Increased timber volume
 - More desirable species and better tree quality
 - Better wildlife habitat



FORS 3347 Lecture 5 Revised 01.18.2019

30

Monongahela Clearcutting Case

- Forest Service
 - Doesn't involve public in decision
 - Doesn't add aesthetic management zones (AMZ)
 - Cuts in mountainous terrain (visible for miles)



FORS 3347 Lecture 5 Revised 01.18.2019

31

Monongahela Clearcutting Case

- The Public
 - Thinks the forest is being destroyed
 - Worries about timber famine (early 1900's)
 - Worries about floods (Johnstown)



FORS 3347 Lecture 5 Revised 01.18.2019

32

Monongahela Clearcutting Case



- 1970's Forest Service is sued based on Organic Act
- Lost due to lack of 'mature' trees to harvest

FORS 3347 Lecture 5 Revised 01.18.2019

33

Monongahela Clearcutting Case

- Congress responds
- Resources Planning Act of 1974
- National Forest Management Act of 1976
 - Both laws provided for scientifically sound clearcutting
 - Both also had provisions for public involvement in management planning
- Management by prescription became management by consensus

FORS 3347 Lecture 5 Revised 01.18.2019

34

Monongahela Clearcutting Case

- Clearcutting started again in 1978 (10 years)
 - Limited clearcut size to 25 acres
 - Separated clearcuts by 1/8 mile
 - Irregular clearcut boundaries
 - No cutting adjacent to a previous clearcut until those trees were at least 20% of stand height

FORS 3347 Lecture 5 Revised 01.18.2019

35

A Key Distinction

Public Land

- Subject to more restrictive federal laws
 - NEPA, NFMA, RPA, ESA, etc
- Must DIRECTLY consider public input in most planning decisions

Private Land

- Subject primarily to state laws (but also some federal)
 - BMP's, tax considerations
- Can be INDIRECTLY affected by public relations issues
 - Large corporations yes
 - NIPF or Family Forests?

FORS 3347 Lecture 5 Revised 01.18.2019

36

Public Views of Clearcutting

- Lots of misinformation
- Clearcutting has probably given forestry more of a 'black eye' in terms of public relations than any other single practice
- Be aware, and know how this might affect what you should do where you end up working



FORS 3347 Lecture 5 Revised 01.18.2019

41
