

COPPICING OF OAK AND BEECH AS SEEN FROM BULGARIA – A CASE STUDY – preliminary results

Ivailo Markoff¹, Erik Findeisen², Grud
Popov¹, Sotir Glushkov¹

¹Forest Research Institute – Bulgarian academy of sciences,
Sofia

²University of Applied Sciences, Erfurt

TRADITIONAL POLICY

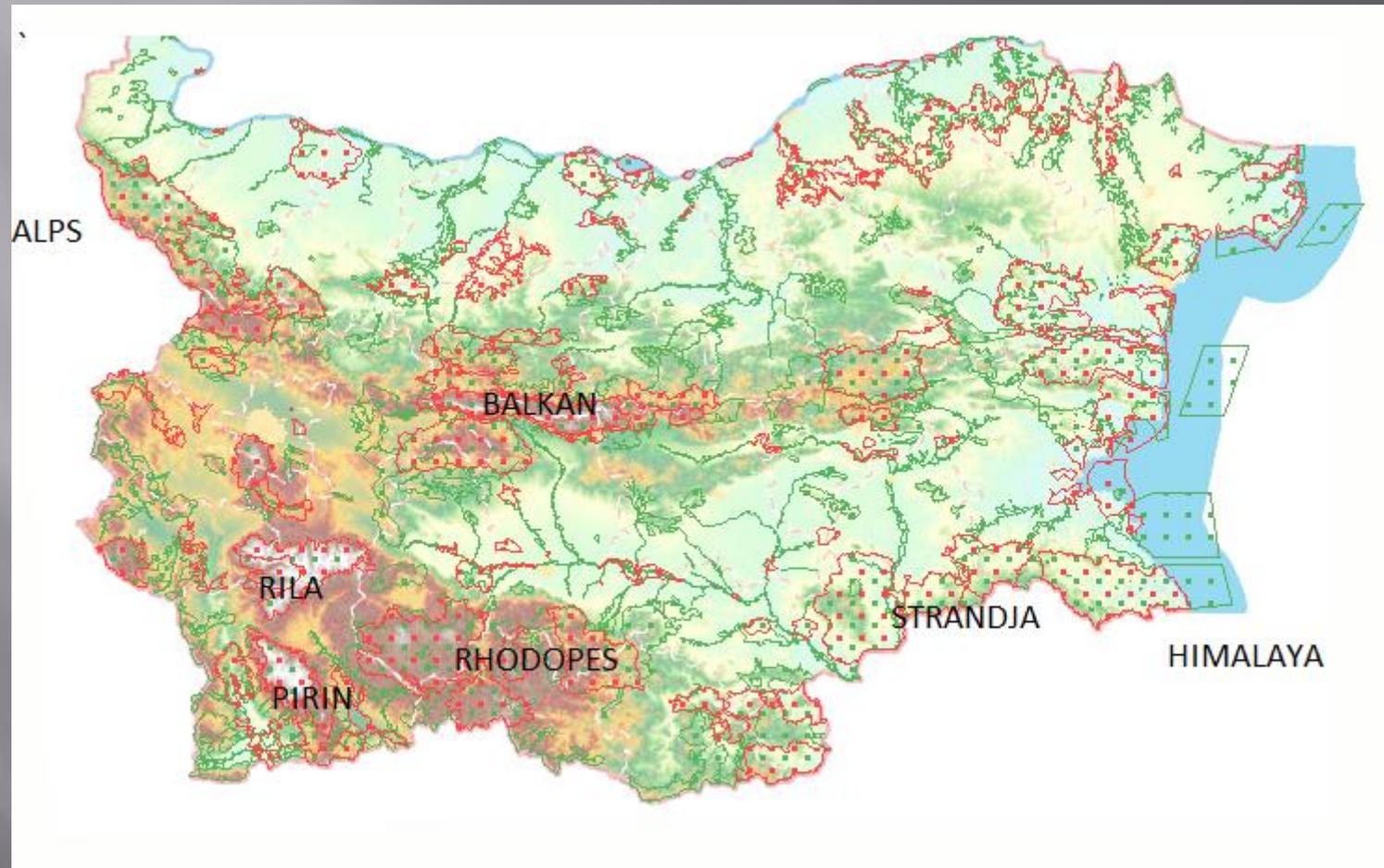
Dence stands on good sites – convert
by ageing

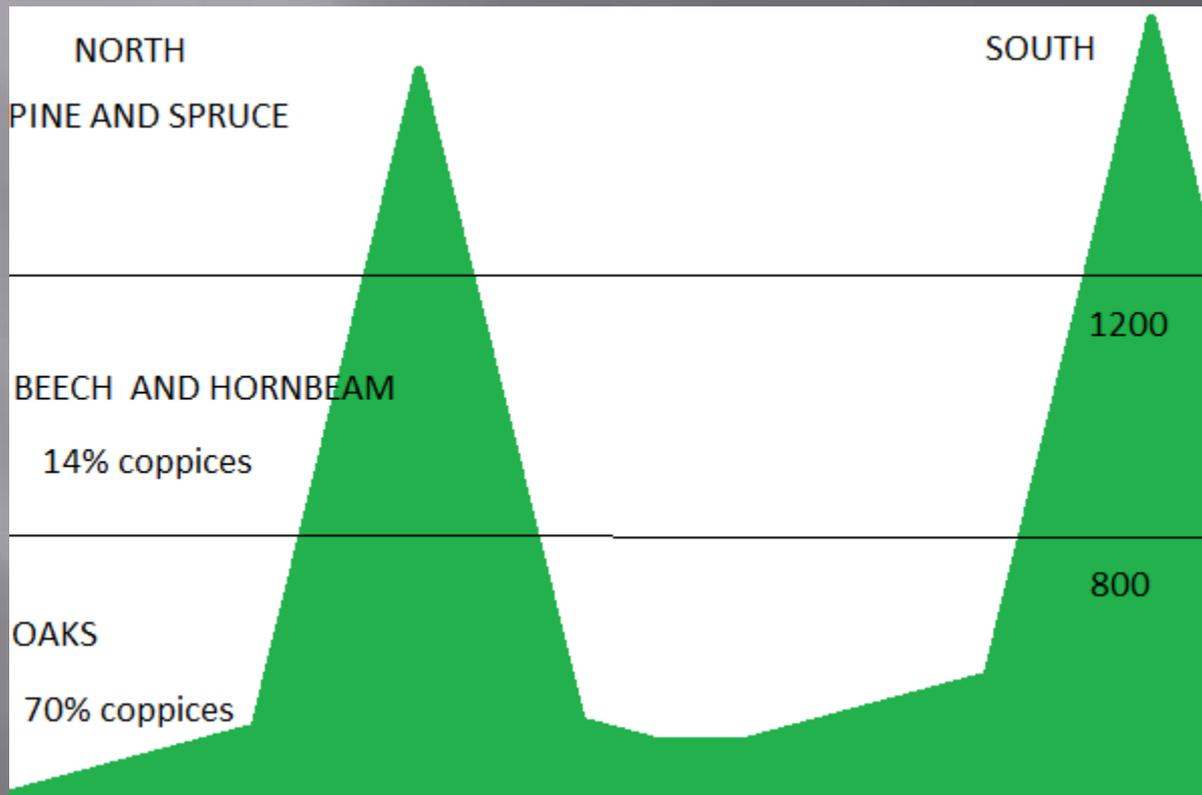
Poor sites or low stocking – replace
with conifers

TREE SPECIES COMPOSITION

2 000 000 ha of coppices + 1000 000 ha of conifers
60% oaks + 8% Oriental hornbeam
10% beach + 6 % hornbeam
8% locust plantations (coppiced)

Mountains and Natura 2000





Oak coppice



Beech coppice

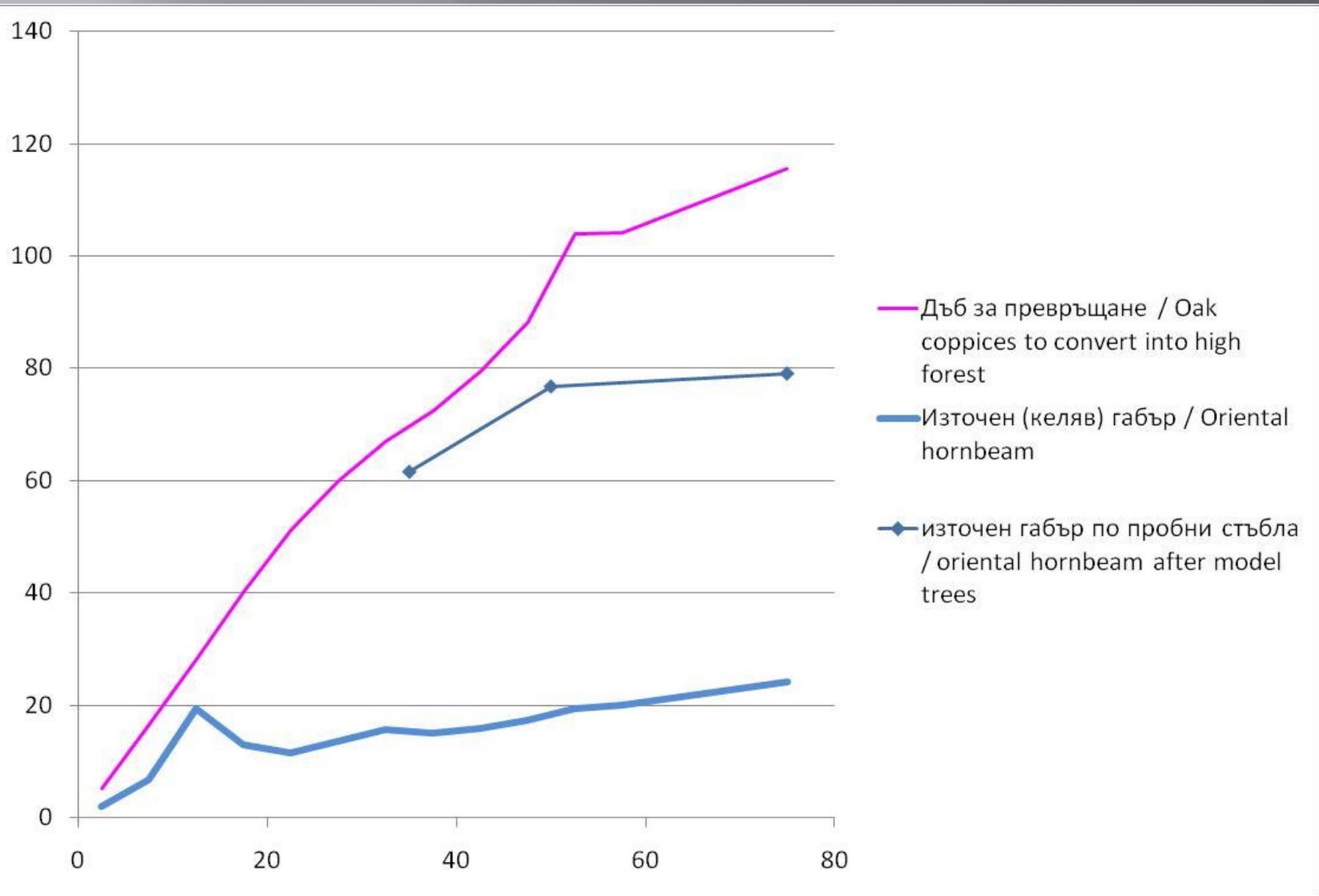


Beech and hornbeam



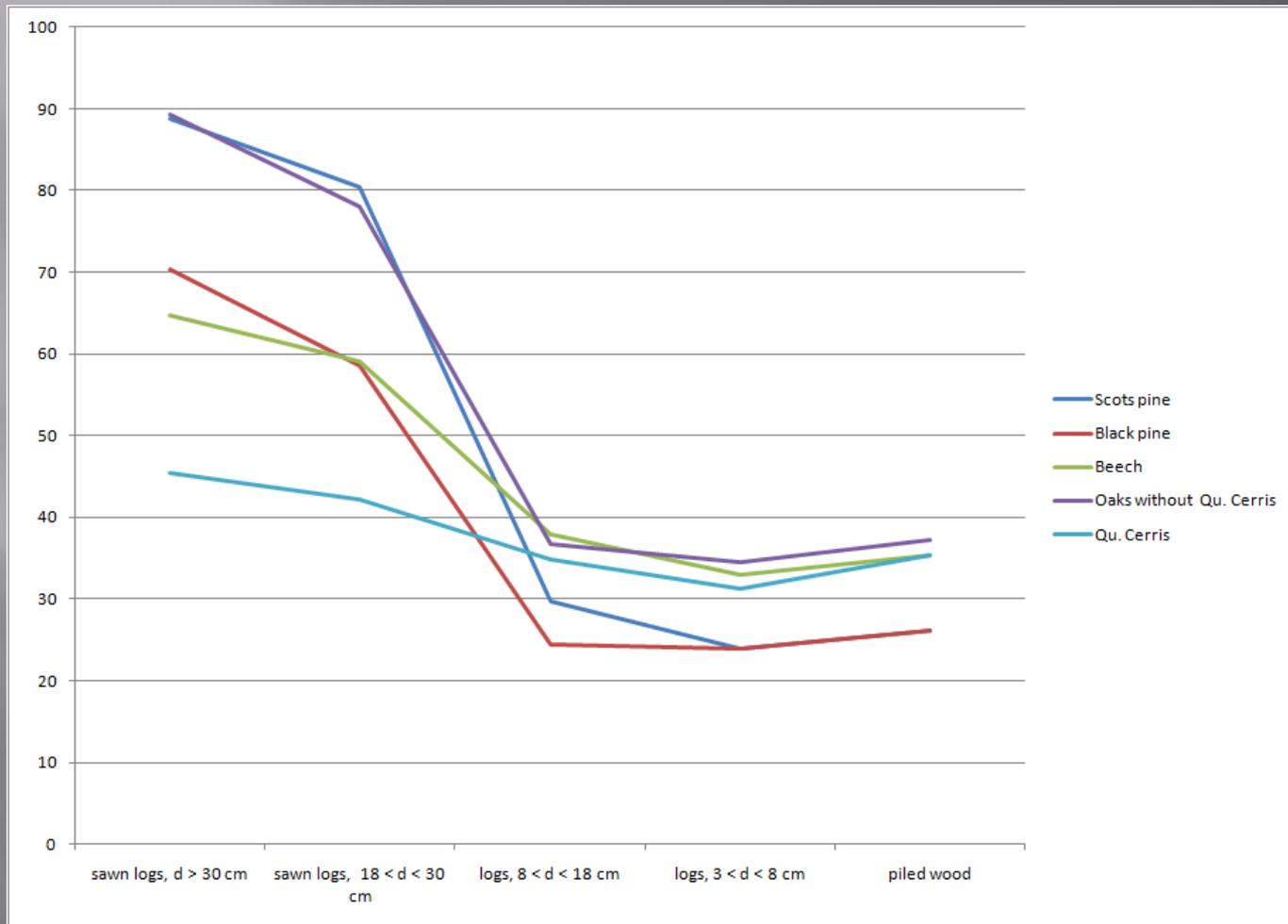
Oriental hornbeam





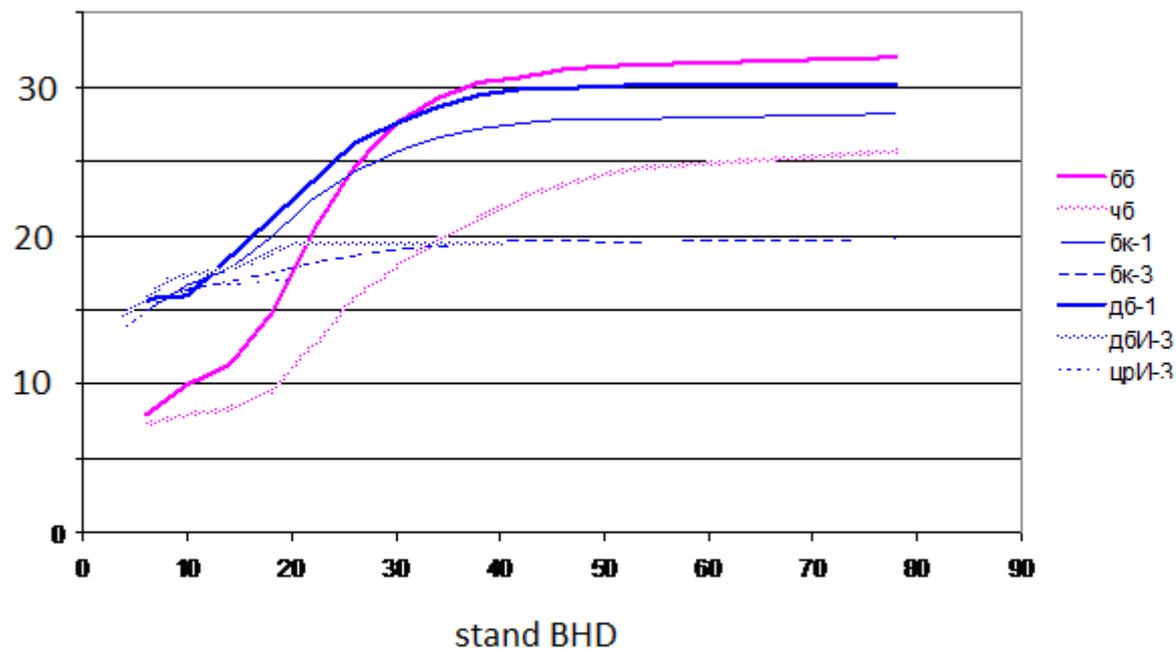
PRICES

logs: Sc.pine=oak, beech=black pine
wood:oak=beech



Stumpage prices

EUR/m³ stumpage prices 2015



Calculation details

Discounted cash flows starting with afforestation or natural regeneratin

NPV, alternative to IRR

$$NPV = -c + \sum_{y=1}^{120} \frac{B_y - C_y}{(1+i)^y}$$

c - planting costs

y - year

B_y - benefits in year y

C_y - costs in year y

i - interest rate

STATE FORESTS, 80%, aim positive 0, discounting rate 1%

NON-STATEF., 20%, aim is profit, discount rate 4%

Monetary evaluation

Interest rate and site class	Scots pine plantations	Black pine plantations	Oak from seed, natural regeneration	Oak from seed, plantations	Oak from seed via natural regeneration with shrubs	Oak coppices, rotation 30 years	Oak coppices, rotation 20 years
1%							
1	8686	1029	11200	6200	8309	12190	11831
2	2805	-2340	8937	3937	6631	10182	9838
3	-1323	-5046	7023	2023	5210	8400	8072
4	-5004	-7380	4727	-273	3507	6756	6889
5	-8685	-9714	2726	-2274	2023	5382	5692
4%							
1	-1983	-3671	278	-4722	86	2687	3110
2	-3279	-4414	231	-4769	71	2245	2586
3	-4189	-5010	277	-4723	85	1852	2122
4	-5001	-5525	200	-4800	62	1489	1811
5	-5812	-6039	130	-4870	40	1186	1496

CHALLENGE

Already ageing and re-sprout bad
Renew the root

THANKS FOR ATTENTION