2003 MAST SURVEY

James C. Pack and William K. Igo

Many West Virginia wildlife species are highly dependent on mast produced by our trees and shrubs. The amount of energy produced from mast is much more important for the survival of many wildlife species than forage from agriculture crops and herbaceous plants. Seeds and fruits from trees and shrubs are necessary for not only overwinter survival but also to assure wildlife is in good physical condition to reproduce. Mast conditions are used by biologists and wildlife managers to forecast black bear, squirrel, white-tailed deer, wild boar, and wild turkey population changes and harvests.

The Division of Natural Resources (DNR) in cooperation with the Division of Forestry has annually surveyed the State for the last 34 years for mast abundance of important mast species. This information on the quantity of wildlife food is provided to our cooperators, our hunters, and the news media. Nearly 300 sites covering all regions of West Virginia are surveyed each year. Wildlife managers, foresters, and wildlife biologists, retired wildlife managers and biologists, one Natural Resources Commissioner, and a few selected other cooperators devoted their time to collect data to make the Mast Survey possible. The survey would not be reliable year after year without the input of the above people. We sincerely thank everyone, and we extend our special thanks to retired persons and sportsmen that devote their time and effort without any monetary compensation. Nearly 10 percent of our surveys came from the, retirees and cooperators, and we seriously doubt that we could maintain good coverage of the state without their help and without the extra effort of those that conduct multiple surveys.

We described last year as a “spotty mast year”, and this year is not a boom year either. In 2002, we had the late May freeze that affected mast production, and this year we are still seeing this effect in our black, red, and scarlet oak indices. The constant rain this past spring was great for tree growth, but it had a negative impact on the flowering of species like white and chestnut oak. The positive news this year is that the average indices of all species combined, improved over last year (Figure 1).

Mast conditions for beech, walnut, and hickory was exceptional, and mast from many of our understory trees and shrubs was better than last year (Table 1). The bad news is that this is the third year in a row with mast condition below our norm (Figure 1). Important overstory mast trees including beech, hickory, all the oaks, and black cherry combined showed a significant improvement over year 2002, but here again, the average was still below normal (Figure 2). The most devastating news is that our indices of oaks is the second lowest since we started the survey in 1970 (Figure 3). Nine of our 18 specific mast species surveyed had lower indices than our 34-year average (Table 2).

As mentioned above, the best news about 2003 is the amount of beech, walnut, and hickory mast. The index of beech was 2.6 times higher, walnut 4 times higher, and the index of the most important food for squirrels (hickory) doubled the figure for last year. In addition, all three of these species were significantly above their averages. Walnut production must have been phenomenal because the index was double the average.

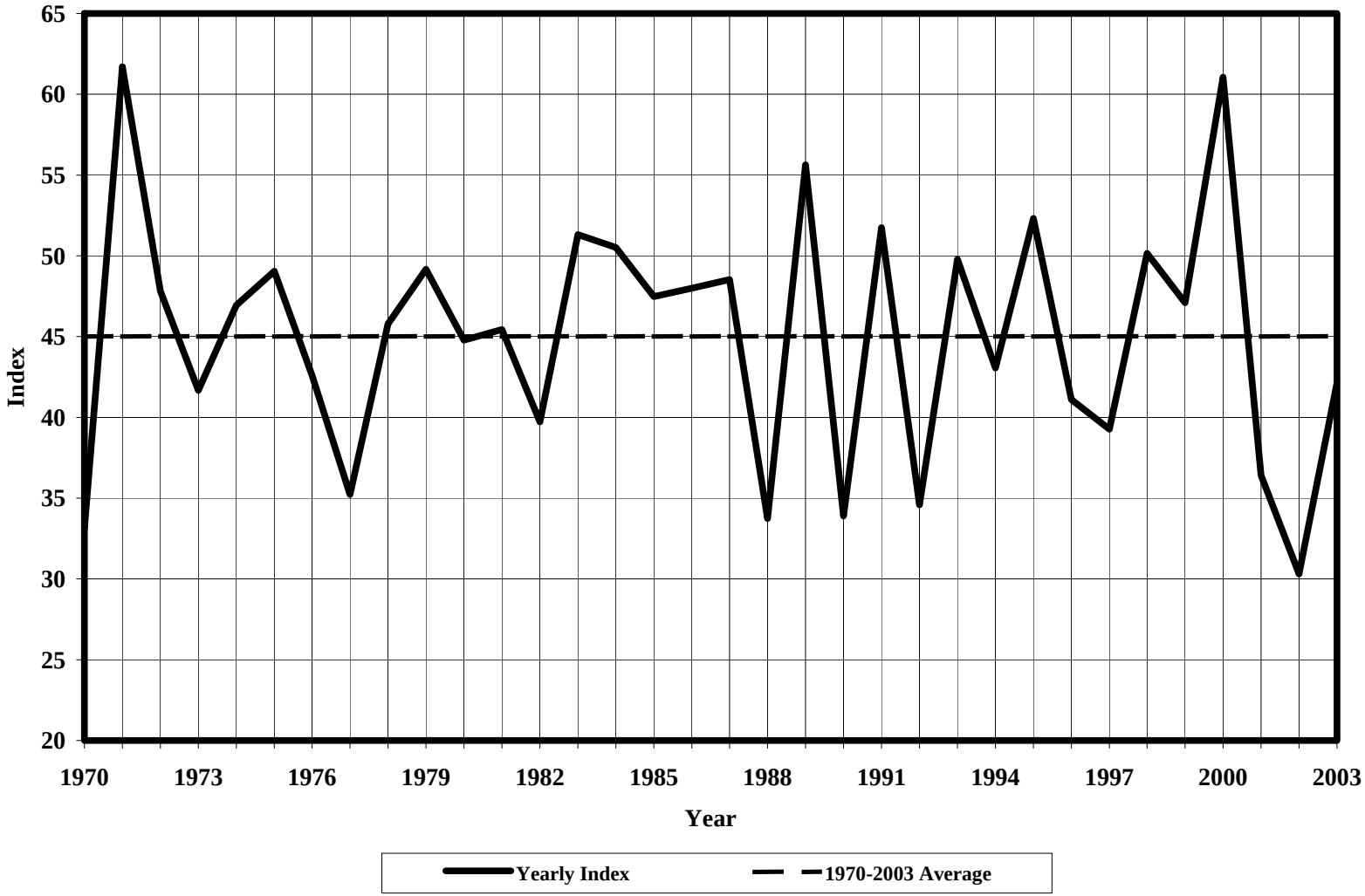

Figure 1. Indices of all mast species combined.

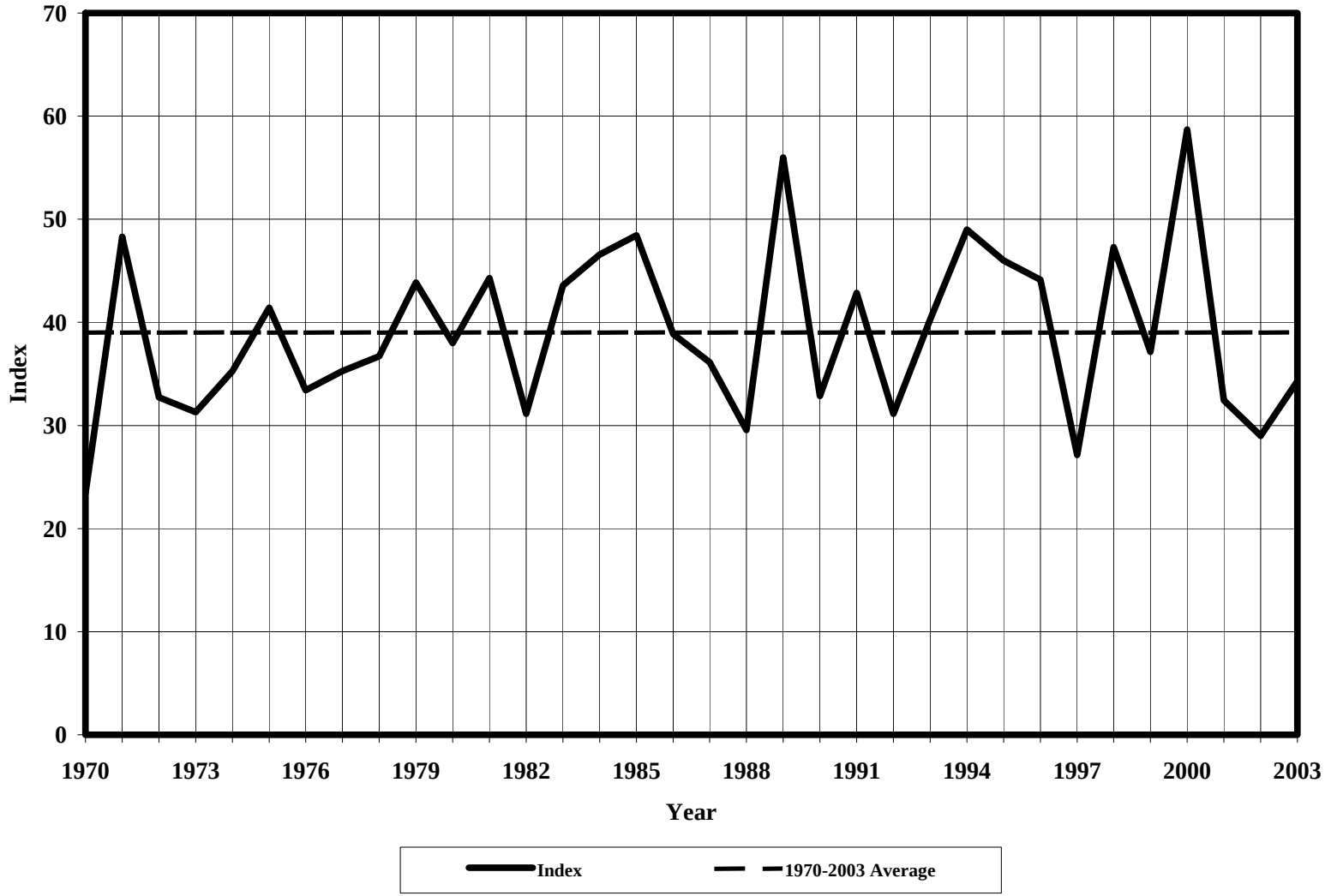

Figure 2. Indices of beech, hickory, oaks, and black cherry, 1970-2003.

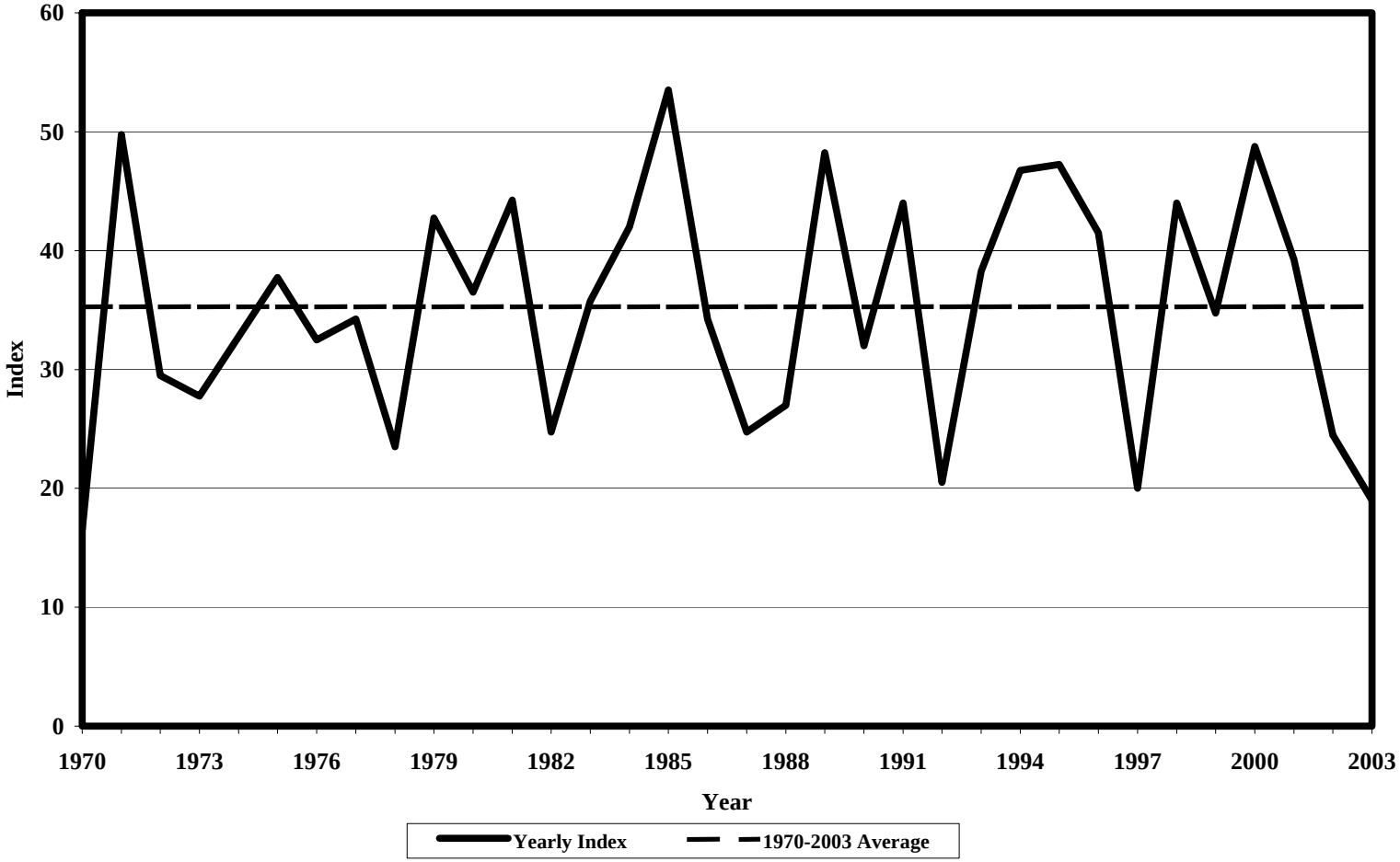

Figure 3. Index of oaks, 1970-2003.

The 4% decline in white oak and 13% in chestnut oak does not look like a major drop in mast production, but once again, when we look at these species in relationship to their 33-year averages, both are below par (-33% for white oak and –55%) for chestnut oak. When it comes to the news about members of the red oak family (black, red, and scarlet oak), the news is nothing but bad. These species averaged 34% lower indices than year 2002, and 52% below their averages.

The survey of black cherry shows that production was about the same as last year and 18% better than average. Like black cherry, grape abundance was similar to last year, but production was still 33% below the average. The remainder of the understory trees and shrubs surveyed produced more mast than last fall, but greenbrier berries and sassafras fruit were 32% and 29% below their norms, respectively. Bowhunters, especially, should keep in mind that the amount of crabapple and regular apple abundance more than doubled the index for 2002, and their indices were above average.

Unlike last year when mast was scarce in many lowland areas and more abundant as elevation increased, our cooperators generally did not report a major statewide difference in production in regard to elevation. Lowland and highlands had similar rates of abundance except there were slightly more beechnuts, walnuts, and hawthorn berries in the lowlands than on our ridges.

When we started the mast survey in 1970, our main purpose was to use the survey to forecast squirrel populations and hunting outlook. Current mast conditions impact overwinter survival and reproductive success of squirrels in the spring. Because of the poor mast conditions and harsh winter in 2002, squirrel populations in 2003 will be lower than 2002. Considering the improvement of the beech, walnut, and hickory mast crops this year and more food in relation to the number of squirrels, overwinter survival and more litters next spring should translate into more squirrels in 2004 despite the poor crop of acorns. The year 2004 will not be anything like a banner year, but still better than 2003.

It is recommended that hunters review the regional trends in mast as shown in Tables 3 and 4 to learn of food conditions in their region of the state. There are always some regional differences. Readers not familiar with our regions should refer to Figure 4 to determine the ecological region where they hunt.

REGION 1 (EASTERN PANHANDLE)

Walnuts, hickory, scrub oak, yellow-poplar, blackberry, and common apple mast is significantly better in 2003 than 2002. As a matter of fact the walnut, hickory, scrub oak, blackberry, sassafras, and common apple had increases in production greater than any other areas of the state. Mast from all the understory trees and shrubs, except for grape, is as common or more abundant than last fall. Unfortunately, the acorn crop from all the oak tree species is not as good as last year and their indices average 53% below normal for this region.

In contrast to last year, many mast species like beech, walnut, hickory, white oak, cherry, yellow-poplar, crabapple, and dogwood have more mast at lower elevations than in the highlands.

No difference was detected in the amount of acorns of black, red, and scarlet oak in the lowlands versus the high elevation sites examined.

In consideration of the abundance of walnuts and hickory mast in relationship to the squirrel population, there should be enough mast to produce slightly higher squirrel populations in 2004.

REGION 2 (MOUNTAINS)

Like the Eastern Panhandle, this region has a poor oak crop compared to last year, and it appears that oak production is lower here than any other part of the state (oak indices were 88% below average). The best news is that the beechnut, walnut, and hickory mast crop is better than last year and walnut and hickory are above average for this region. The black cherry, grape, and hawthorn mast crops are not as good as last fall. Understory trees and shrubs like crabapple, dogwood, blackberry, and apple have more mast than last year.

Surveyors found more beechnuts, walnuts, black cherry, crabapple, hawthorn, and common apple in the lowlands than up high. No difference was measured in the amount of hickory nuts or acorns between the highlands and lower valleys.

The squirrel population should be slightly higher next year in this region, but the poor crop of acorns and present low population of squirrels will still keep numbers lower than normal.

REGION 3 (SOUTH)

As we go from the Northeastern part of the state into the southern counties, mast conditions follow a similar pattern, but the species with indices in decline, do not appear to be as large, and species in greater abundance, have higher increases than the eastern counties in Region 2. Oak mast is still below last year and below average (-59%), but the beech, hickory, black cherry, grape, yellow-poplar, hawthorn, crabapple, dogwood, blackberry, greenbrier, sassafras, and common apple mast is better than last fall. Walnut, hickory, black cherry, hawthorn, and common apple mast production is significantly above the average for this region.

Of the 18 mast species surveyed, only four showed any major difference in production between the highlands and lower lying areas. Hickory and crabapple had slightly more mast on the higher ridges, while beechnuts and cherries “hit” better in the lowlands.

Squirrel numbers will probably increase in numbers next year in this region because of the above average beechnut and hickory mast crops.

REGION 4 (CENTRAL COUNTIES)

As we get into the central and western counties, mast conditions are beginning to take on a somewhat more positive outlook for oaks, especially when compared to 2002. Although black, red, and scarlet oak mast is not as abundant as last year, white oak and chestnut oak mast is more abundant even though all the oaks average 34% below their averages. Walnut, hickory, black

cherry, grape, yellow-poplar, hawthorn, crabapple, and common apple have increases in indices of 15 to 399% above last year. The hickory crop has the second highest increase in the state. All of understory and shrub species surveyed except blackberry and greenbrier produced more mast than 2002, but with the exception of hawthorn, dogwood, crabapple, and the common apple, most still produced less mast than average.

We also began to measure some other changes in regard to elevation in this region compared to the three mentioned earlier. White oak, chestnut oak, black oak, red oak, scarlet oak, black cherry, grape, and crabapple mast is actually more common at higher elevations. Only beechnuts are more plentiful in the lowlands. We did not detect any difference in mast abundance in regard to elevation of other species.

The beech, walnut, and hickory mast crops should result in a higher carryover and more spring litters with the end result being slightly more squirrels by the fall of 2004.

REGION 5 (WEST)

This area of the state has about the same amount of white oak and chestnut oak mast as last year, while black, red and scarlet oak mast is not as good. All the oaks combined averaged having an index 29% lower than the regional average. Beech, walnut, hickory, hawthorn, crabapple, and common apple mast crops are significantly better than last year and the averages for the region.

Field personnel did not notice any major difference in mast crops in regard to elevation for most of the 18 species surveyed. Noteworthy improvement of mast conditions were observed at lower elevations only for beech, walnuts, white oak, and crabapple.

Squirrel numbers will increase slightly in this region during the year 2004 because of the good beech, walnut, and hickory mast crops.

REGION 6 (SOUTHWEST)

Like 2002, the Southwestern counties appear to have some of the best mast conditions in the state. Beechnuts, walnuts, and hickory nuts are more plentiful than 2002, and these species have more mast than average. Except for scarlet oak, the oaks produced mast as good as last year and are near the norm for this region (10% below average for all oaks combined). All other mast species had higher indices in 2003 except for dogwood (8% decline) and sassafras (10% decline). The only major mast species to have mast 10% or more lower indices than average was scarlet oak.

Hunters should find slightly more mast in the lowlands for most of the 18 mast species surveyed than at higher elevations. Notable exceptions are that black cherry, hawthorn, and blackberry mast is better at higher elevation. The squirrel population will improve in this region in 2004.

Table 1. 2003 statewide index compared to 2002 mast index.

Species	2002	2003	Percent Difference
Beech	18	47	161
Walnut	18	72	300
Hickory	32	64	100
White Oak	25	24	-4
Chestnut Oak	16	14	-13
Black or Red Oak	31	23	-26
Scarlet Oak	26	15	-42
Black Cherry	55	53	-4
Grape	29	28	-3
Scrub Oak	12	18	50
Yellow poplar	39	57	46
Hawthorn	32	48	50
Crabapple	27	60	122
Dogwood	38	49	29
Blackberry	46	51	11
Greenbrier	29	32	10
Sassafras	27	30	11
Apple	26	65	150
Other	50	70	40

Table 2. 2003 statewide index compared to 33-year average mast index.

Species	33-year Average	2003	Percent Difference
Beech	38	47	24
Walnut	36	72	100
Hickory	47	64	36
White Oak	36	24	-33
Chestnut Oak	31	14	-55
Black or Red Oak	43	23	-47
Scarlet Oak	33	15	-55
Black Cherry	45	53	18
Grape	42	28	-33
Scrub Oak	41	18	-56
Yellow poplar	45	57	27
Hawthorn	48	48	0
Crabapple	53	60	13
Dogwood	49	49	0
Blackberry	54	51	-6
Greenbrier	47	32	-32
Sassafras	42	30	-29
Apple	54	65	20
Other	67	70	4

Table 3. Percent difference in mast index by species between 2002 and 2003 by ecological region.

Species	Ecological Region					
	1	**2**	**3**	**4**	**5**	**6**
Beech	0	153	292	0	160	55
Walnut	595	331	0	399	199	74
Hickory	341	44	82	121	120	40
White Oak	-10	-53	-29	44	9	8
Chestnut Oak	-47	-90	-40	32	0	1
Black or Red Oak	-41	-32	-14	-27	-13	4
Scarlet Oak	-54	0	-18	-70	-35	-36
Black Cherry	-58	-41	45	49	-20	9
Grape	-11	-42	22	15	0	9
Scrub Oak	125	-74	0	0	0	0
Yellow-poplar	13	123	52	69	24	48
Hawthorn	0	-23	144	83	124	118
Crabapple	0	66	96	131	110	74
Dogwood	0	57	97	9	-11	-8
Blackberry	55	6	19	-2	-15	15
Greenbrier	1	0	52	-25	-3	4
Sassafras	62	0	13	4	10	-10
Apple	259	482	114	113	104	49
Other	65	26	39	41	88	9

Table 4. Percent change in 2003 mast index by species from average of years (1971-2002) by ecological region.

Species	Ecological Region					
	1	**2**	**3**	**4**	**5**	**6**
Beech	79	-6	6	48	32	48
Walnut	118	33	97	106	109	78
Hickory	65	2	19	38	65	47
White Oak	-20	-70	-59	-7	-41	-9
Chestnut Oak	-78	-96	-69	-26	-57	4
Black or Red Oak	-52	-89	-51	-36	-15	-6
Scarlet Oak	-63	-96	-58	-68	-2	-29
Black Cherry	-36	-12	39	31	12	56
Grape	-38	-52	-31	-46	-27	19
Scrub Oak	-37	-94	-76	-12	165	-100
Yellow-poplar	71	2	8	12	24	63
Hawthorn	34	-40	16	24	18	75
Crabapple	49	-18	5	28	19	24
Dogwood	9	2	6	0	-13	3
Blackberry	-17	-6	-3	-2	-13	43
Greenbrier	-38	-25	-17	-58	-38	8
Sassafras	-25	-23	-19	-54	-37	4
Apple	24	8	13	30	18	25
Other	18	-4	9	-18	-2	8

2003 WEST VIRGINIA HUNTING OUTLOOK

James C. Pack and William K. Igo

Most of the information used for this hunting outlook is provided by field personnel of the Wildlife Resources and Law Enforcement Sections of the Division of Natural Resources (DNR), foresters from the Division of Forestry, retired DNR wildlife managers and biologists, and a few other cooperators. We are indebted to these individuals for making the publication of our hunting outlook possible. Hunting predictions are also based on current mast conditions, as well as the previous year's food availability. The latter often dictates survival and reproductive success of many wildlife species the following year. Brood reports of ruffed grouse and wild turkeys are used as major predictors of populations and harvests. Other important information incorporated to judge upcoming harvests and animal numbers include the Spring Gobbler Survey, Bowhunter Survey, Raccoon Field Trial Survey, nuisance complaints, adjustments to bag limits, permit allocations, and hunting season type and length.

Table 1 is a quick check chart of predicted statewide harvests of our major game species for 2003. Harvests of most game species will be lower this fall and winter. Projected deer kill by season and region are shown in Table 2. Predicted fall wild turkey harvests are illustrated in Table 3. Hunting prospects on a regional basis are provided in Tables 4 through 8. This outlook is designed to forecast general prospects and is not intended to predict hunting conditions at specific locales. Particularly, with mast conditions as low and spotty as this year, hunters are encouraged to scout their favorite hunting spots to learn more about food and game conditions.

GRAY AND FOX SQUIRRELS

The factor influencing squirrel numbers more than any other is the mast conditions from the previous year. The reason is that food conditions from the previous year have a major impact on overwinter squirrel survival and the number of litters produced by squirrels. Squirrels normally produce a summer litter, but the spring litter is very dependent on overwinter food availability. Since we had a poor mast crop in 2002 and a severe winter, carryover and production of young squirrels this past spring were not as good. **This means that the squirrel population will not be as high as last year in most of the state.**

Hunters should keep in mind that the favorite food of squirrels is hickory nuts, and hickory nuts are more abundant this year. Because of the spotty mast conditions, it is advised that hunters scout out their favorite hunting areas just before season. Hickory and beech mast is better and the acorn crop is not good; therefore, hunters that seek out hickory and beech trees, will be more successful. Hunters that move and search for patches of hickory and beech trees will be more successful than hunters who do not move. Hunters also need to keep in mind that the second litter of squirrels is usually not available until after mid-October so those that hunt later in the season will benefit from the addition of juvenile squirrels to the population.

Hunters need to keep in mind that the Eastern Panhandle generally has more squirrels than any other area of the state. In addition, the drop in squirrel numbers will not be as great in the Western and Southwest as in other regions of the state.

COTTONTAIL RABBITS

During the last several years, the rabbit population has been improving, and **field personnel predict cottontail hunting in 2003 will be similar to slightly better than 2002.** The abundant rainfall this past spring and summer and timber harvesting in recent years has resulted in more cover for cottontails, but hunters need to be aware that an early leaf fall can reduce cover rapidly. This means that numbers can drop substantially as the season progresses.

RACCOONS

Mast conditions have not been good the last 3 years with the oak mast crop being lower than average 2 years in succession. Mast conditions have an impact on raccoon reproduction so on a statewide basis, raccoon numbers statewide should be similar to slightly lower this year.

DEER

The total white-tailed deer harvest should be slightly lower this year. The decline in kill will be largely due to liberal antlerless harvest in some counties last year that was designed to bring the white-tailed deer population down so deer numbers will be more in line with habitat conditions . Poor mast and severe winter conditions in 2002 affected fawn survival and deer reproduction. Liberalization of antlerless seasons and bag limits in some counties and growth in the deer population in other counties will likely prevent any major decline in the total deer harvest. In addition, another year of below average oak mast crop in many areas of the state will concentrate deer near fields and will cause deer to be more active. This will make it easier than normal for hunters to locate and harvest deer and, therefore, will serve as a compensating factor to prevent a greater than normal decline in harvest.

Hunters are advised to review the 2003-2004 Hunting and Trapping Regulations Summary for changes in the seasons and bag limits. Especially noteworthy is that hunters may take 2 antlerless deer per day on private land only during the Dec. 8-13, 2003 portion of the antlerless season. However, they need to keep in mind that the first antlerless deer must be taken to an official game checking station before pursuing a second antlerless deer. In addition, in Logan, McDowell, Mingo, and Wyoming counties the archery bag limit has been increased to 2 deer, provided that 1 deer harvested is an antlerless deer.

BLACK BEAR

Our predictions for 2002 panned out fairly well – a new record archery harvest was established as expected, and the December firearms kill was, as forecasted lower than 2001. This latter decline was because of poor mast that put bears to bed early. For 2003, despite a miserable acorn crop throughout most of the State, we believe the abundance of hickory and beechnuts will have many bears dispersed and will keep them from early denning. This means the bow kill should

be lower than 2002, and the December gun harvest should be higher. The total firearms harvest may set a new record since: (1) the early November gun season in the 5 southern counties (Boone, Fayette, Kanawha, Nicholas, and Raleigh) should be up from last year (we just **can't** get 3 steady rain days again!?!); (2) The gun season during the first week of buck season (without dogs) in these same counties should increase because of later denning; and (3) there are 10 more additional counties (or portions thereof) in the state that have been opened for a firearms season without dogs (December 8–13). Hunters should refer to the Hunting and Trapping Regulations Summary (2003–2004) for specific counties, season dates, and other details. Overall, **the total state bear harvest should be similar to slightly higher (which would set a new record).**

WILD TURKEY

Wild turkey brood numbers were below average in 2002, and the wet spring in 2003 had a major impact on broods in 2003. The 2003 brood count is down so statewide there just are not as many turkeys. On a regional basis, counts in the western part of the state are similar to last year, and hunting should be better here than other parts of the state. It might be a good year for hunters that normally hunt in the eastern part of the state to try hunting in the counties open to fall hunting in the Northern Panhandle, the western, and southwestern part of the state. All counties open to fall hunting in 2003 are open to a general season so no special limited permits are required.

The above normal amount of beech and below normal amount of acorns will result in more wild turkeys near fields and concentrated in beech mainly in our northern hardwood habitat in our national forest counties in the eastern part of the state early in the season. This will make it easier to locate wild turkeys. Wild turkeys will be more dependent on the mast from the understory mast trees and shrubs this year. Due to the fact that the wild turkey season will remain open until the last Saturday prior to the white-tailed deer firearms season in the counties open to 4-weeks, the harvest by hunters scouting for places to hunt deer will result in a higher kill than normal the last week of the season, **but the total harvest should still be lower than last fall.**

Fourteen counties will be opened to a 4-week split fall season (Oct. 25 - Nov. 22). Preston county will be open Oct. 25 - Nov. 8. Eleven counties will be open October 25- Nov. 1. It is important that hunters take note that Doddridge, Harrison, Lewis, Marion, Pleasants, Taylor, and Upshur counties will not have a fall hunting season this year. However, Jackson and Ritchie, closed last year, will be open to fall hunting this year.

Hunters should read the 2003-2004 Hunting and Trapping Regulations Summary, which is available at local license agents and Division of Natural Resources (DNR) offices, to learn more about changes in wild turkey hunting regulations this year. The summary thoroughly explains changes in seasons and regulations.

RUFFED GROUSE

Bird hunters and their canine sidekicks thought last year was frustrating! Hit the brush this year and bigger disappointments are probably in store. Surveys show lower populations and the majority of cooperators are forecasting worse hunting throughout all regions of the State. Brood reports are down 56% from 2002 (recall that 2002 counts were 64% below 2001!) and 70% lower

than the 5-year average. Continued spring and early summer rains probably caused low chick survival. Some bright spots might exist – there were good reports from the central counties of Clay, Nicholas, and Webster; from McDowell and Mercer counties in the south; and from Monongalia and Tucker in the north. **Statewide, like last year, flushing rates will be dismally low and poor harvests will occur.**

WILD BOAR

Habitat changes, predation, poor reproduction and possible competition for food with native wildlife species may have caused declines in the hog population over the last 20 years. Seasons have been adjusted for 2003 to try to increase boar numbers. There will be no December gun season for 2003. An early gun season has been scheduled for October 27 to November 1, 2003. Archery season will still be in effect from October 18 to December 31. **This season change should result in a lowered harvest of wild boar for 2003.**

BOBWHITE QUAIL

Quail numbers continue to vary widely across the State. Few observations were made in the mountains and northcentral regions. Field personnel report stable to lower populations in the Eastern Panhandle, with best surveys from Berkeley, Jefferson, Mineral, and Morgan counties. Most Ohio River counties continue to maintain similar numbers as last year, and reports form some coalfield counties indicate low but stable populations.

Table 1. 2003 quick check chart of predicted statewide wildlife harvests.

Species	More	Similar	Lower
Gray & Fox Squirrels			X
Cottontail Rabbits		X	
Ruffed Grouse			X
Raccoon		X	
Whitetail Deer			X
Wild Boar			X
Wild Turkey			X
Bear		X	

Table 2. 2003 quick check chart of deer harvest forecast by region and season.

Region	Season				
	Bow	Buck	Antlerless	Muzzleloader	Total Kill
1	Lower	Similar	Similar	Lower	Similar
2	Similar	Similar	Higher	Similar	Similar
3	Lower	Similar	Higher	Lower	Similar
4	Lower	Lower	Similar	Lower	Lower
5	Similar	Lower	Similar	Lower	Lower
6	Similar	Higher	Similar	Lower	Similar
Statewide	Lower	Lower	Similar	Lower	Lower

Table 3. 2003 quick check chart of wild turkey harvest forecast by region.

Region	Higher	Similar	Lower
1			X
2			X
3			X
4			X
5		X	
6		X	
Statewide			X

ECOLOGICAL REGION 1

Table 4. Hunting prospects in Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral, Morgan, and Pendleton Counties.

Game Species	2003 Outlook
Gray and Fox Squirrel	Field surveyors are reporting squirrel numbers down for the second year in a row – poor hard mast in 2002 meant less bushytail production for 2003. Although poor hunting is predicted, hunters should be aware that due to an abundance of hickory nuts, squirrels will be concentrating in hickories and will still be cutting hickory when season arrives. Hunters will benefit from scouting: there are pockets of acorns, especially white oak on ridgetops reported from Berkeley and Mineral counties. Generally, mast conditions are better at lower elevations, particularly beech, walnut, and hickory. Squirrels were reported more common at lower elevations in Pendleton County. Best surveys come from Berkeley and Hampshire counties.
Rabbits	Cooperators are reporting similar numbers. More rainfall in 2003 should improve cover conditions. Counties with best reports are Berkeley and Jefferson.
Ruffed Grouse	Another woeful year for bird hunters – field personnel are seeing fewer grouse and are predicting similar to poorer hunting (and 2002 was terrible!). The few birds there are will be widely scattered as prime foods such as thornapple and crabapple are widespread and abundant Only promising survey was from Pendleton County.
Raccoon	Similar to better coon hunting is predicted, possibly due to concentration of ringtails at lower elevations where soft mast crops (and corn) are more common. Berkeley, Jefferson, and Hampshire have best surveys.
Deer	Whitetail populations are normally high in this regions, and field personnel report that the harvest should be similar to last year. Due to a poor acorn crop, deer will again be more active and more deer than normal will concentrate around fields. Hunters should note that all counties in this region are open for antlerless hunting with a bag limit of 4 on private land using a combination of Class N or NN and unfilled RG or RRG licenses. Hunters should refer to the 2003-2004 Hunting and Trapping Regulation Summary for details. However, only 1 antlerless deer may be taken during antlerless season on public land in Pendleton

Table 4. (Cont'd) Hunting prospects in Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral, Morgan, and Pendleton Counties.

Game Species	2003 Outlook
Deer	County, plus the antlerless season is only 6 days (Dec.8-13) on public lands. The Muzzleloading season bag limit on public land is only 1 in Pendleton County. Hunters should also note the Wilson Cove Deer Study Area located in Hardy County on the George Washington National Forest will not be open to the traditional rifle bucks-only firearms seasons. Like last year, the area will have a bucks-only muzzleloader season November 24 – December 6, 2003. Hunters should refer to the 2003-2004 Hunting and Trapping summary for details. Best outlook by county for deer hunting came from Berkeley, Jefferson, and Hampshire.
Turkey	Brood reports are down almost 50% from last year. Surveyors are seeing fewer birds and are forecasting lower harvests. Better opportunities for bagging a turkey, may be at lower elevations around dogwood, hawthorn, or crabpple thickets. Best reporting county is Berkeley.
Bobwhite Quail	Field personnel reported further declines in bobwhite numbers possibly from poor production from prolonged spring rains.
Black Bear	Most forecasts show higher bear numbers and better harvests. Areas around apples trees could be productive for both bear and deer bowhunters early in the season. The prolific hickory mast may prevent bears from entering dens early, resulting in high gun harvests. Good reports were received from Grant, Hampshire, Hardy, and Pendleton counties.

ECOLOGICAL REGION 2

Table 5. Hunting prospects in Greenbrier, Pocahontas, Randolph, Tucker, and Webster Counties.

Game Species	2003 Outlook
Gray and Fox Squirrels	Last year's poor mast has resulted in low bushytail populations in this region. Acorns are reported as "almost nonexistent in most areas; there were a few reports of a little oak "hitting" on some ridges. Hickory has produced well at all elevations; hunters who scout just prior to season for recent "cuttings" should still do well in providing meat for their gravy. Also note that beechnut and walnuts are abundant at low elevations. We could not identify a "best" survey county.
Rabbits	Bunny numbers are similar to higher than 2002 populations. Abundant spring and summer rains have produced abundant food and cover conditions. Greenbrier, Pocahontas, and Webster have best reports.
Ruffed Grouse	Hunting Ol' Ruff will be a daunting experience again in this Mountain section. Brood counts are down an astonishing 68% from 2002 and more than 70% from the 5-year average. Hunters may have a better chance of flushing a bird along bottoms containing dogwood, crabapple, and thornapple. The only promising reports came from Tucker and Webster counties.
Raccoon	Field personnel report similar to slightly lower numbers and expect similar hunting in this region. . Randolph and Webster counties have the best surveys.
Deer	The harvest in most counties in this region should be similar to last year. Very poor oak mast crop so hunters should expect more deer to be near the field edges. Hunters that hunt in counties like Randolph, Webster, and Tucker counties, which have a significant amount of northern hardwood habitat, will find deer using fields but in the high country, deer will feed heavily on beechnuts and apples during archery season and into the firearms season. A special reminder is that in Pocahontas County, the antlerless season is only 6 days (Dec. 8-13) on public land and the muzzleloading season limit on public land is only 1. Those who hunt in Randolph, Tucker, and Webster should keep in mind that

Table 5. (Cont'd) Hunting prospects in Greenbrier, Pocahontas, Randolph, Tucker, and Webster Counties.

Game Species	2003 Outlook
Deer	the antlerless season (Class N or NN license required) will be open during the buck firearm season on private land, and the season limit is 1. All of Greenbrier County will be open for antlerless hunting on private land with a bag limit of 4 using a combination of Class N or NN and unfilled RG or RRG licenses. Hunters should refer to the 2003-2004 Hunting and Trapping Regulation Summary for details. Best reports come from Tucker and Webster counties.
Turkey	We reported last year that 2002 brood counts were running 45% below 2001. This years brood reports are down 36% from 2002! The continuous rains in spring and summer were not kind to poults. Cooperators are predicting a lower fall harvest. Still, there are reports of a few large flocks in some areas. Due to sparse acorn production, birds will probably be concentrated around fields and along bottoms where there are ample dogwood, crabapple, greenbriar, and hawthorn fruits. Best reporting county – Webster.
Black Bear	Surveyors are forecasting similar to better hunting. The abundance of hickory nuts at all elevations will probably result in a lower archery harvest and an increased gun kill in this region. Bowhunters may do well around apple trees frequented by bruins (hint – scout!). Dog hunters and stump hunters will find more sign around ridges and coves where hickory is dominant. Randolph, Tucker, and Webster have the best surveys.

ECOLOGICAL REGIONS 3 & 6

Table 6. Hunting prospects in Boone, Cabell, Clay, Fayette, Jackson, Kanawha, Lincoln, Logan, Mason, Mercer, Mingo, Monroe, McDowell, Nicholas, Putnam, Raleigh, Roane, Summers, Wayne, and Wyoming counties.

Game Species	2003 Outlook
Gray and Fox Squirrels	Last year Region 6 had the best mast conditions in the state, with foods widely dispersed. Bushytail hunting is expected to be similar to last year in this region. Region 3 had poor mast conditions, with expected declines in squirrels numbers for 2003. Since squirrels will be concentrated in beech and hickory, hunters in this region can still fill their bag with a little time and effort. Best reports are from Clay, McDowell, and Mercer counties.
Rabbits	Prolific rains have produced ideal cover conditions for cottontails. Most field personnel predict similar hunting in most counties. Best reporting counties are Clay, Fayette, Lincoln, McDowell, Mercer, and Raleigh.
Ruffed Grouse	Brood reports are scarce for these regions, and most cooperators predict similar to poorer hunting. Thornapple and crabapple are abundant and wide spread, particularly in Region 6. This will have birds scattered, resulting in very low flush rates. Some positive reports were received from McDowell and Mercer counties in the south, and Clay and Nicholas counties.
Raccoon	Most surveys indicate higher ringtail numbers and forecast better hunting. Hunting may be more productive at lower elevations in Region 6, as beech and dogwood "hit" better low. Many counties have "best" surveys: Boone, Cabell, Logan, Mason, McDowell, Mingo, Putnam, Raleigh, and Wayne.
Deer	The overall harvest should be similar to last year, but harvest in individual counties in this region can vary widely. Some counties will have lower archery harvests, some will have higher buck kills, and some will have higher antlerless harvests due to liberalization of the season or increases in area opened to antlerless hunting. All should have a lower muzzleloading season harvest.

Table 6. (Cont'd) Hunting prospects in Boone, Cabell, Clay, Fayette, Jackson, Kanawha, Lincoln, Logan, Mason, Mercer, Mingo, Monroe, McDowell, Nicholas, Putnam, Raleigh, Roane, Summers, Wayne, and Wyoming counties.

Game Species	2003 Outlook
Deer	Hunters need to review the 2003-2004 Hunting and Trapping Regulations Summary for details on particular seasons in various counties. They especially need to pay close attention to changes in regulations in Boone, Clay, Fayette, Kanawha, Logan, Mingo, Wyoming. Mercer, Nicholas, and Raleigh counties. Best reports indicating higher harvests come from Boone, Clay, Fayette, Mercer, Nicholas, Summers, and Wyoming counties.
Turkey	Cooperators are seeing less turkeys and are forecasting similar to poorer hunting in these regions. Brood counts are down 24% from last year. The regional harvest should be slightly lower than 2002; however, Jackson County qualified for a one week fall season along with Mason. Nicholas and Monroe counties have the traditional 4-week season; surveyors predict a lower kill in Monroe and a similar harvest in Nicholas.
Bobwhite Quail	Numbers are reported declining to stable in these regions. Best surveys come from Cabell and Wayne counties along the Ohio River and from Boone, Mingo, and Logan counties in the coalfields.
Black Bear	The bruin harvest should improve in these regions, chiefly through an increase in gun take. Higher kills are expected in the early November gun season with dogs (Boone, Fayette, Kanawha, Nicholas, and Raleigh counties); in the bear season during the November 24-29 buck season without dogs (same counties); and in the regular December firearms gun season. In addition, several counties have been added to the one-week December gun season (Dec. 8-13) without dogs: Lincoln, Mercer, Mingo, Summers, Wayne, and western Monroe. Also, the entire county of Raleigh will be open to all bear firearms seasons.
Wild Boar	The elimination of the December firearms season should significantly reduce harvest. Since mast supplies were fair last year in the area containing hogs (primarily Boone, Logan, and Wyoming counties), there should be an increase numbers in boar for the archery and late October gun seasons.

ECOLOGICAL REGION 4

Table 7. Hunting prospects in Barbour, Braxton, Harrison, Lewis, Marion, Monongalia, Preston, Taylor, and Upshur Counties.

Game Species	2003 Outlook
Gray and Fox Squirrels	Most field personnel predict similar to poorer hunting for 2003. Beech, walnut, and hickory crops are well up from the 33-year average. (White and chestnut oak acorns are up significantly from 2002 production). Barbour, Taylor, and Upshur County cooperators are seeing more squirrels and more mast at higher elevations. Best reporting counties are Lewis and Upshur.
Rabbits	Higher bunny numbers and better cottontail hunting is predicted. Cover is lush from abundant rains. Results – a happy brace of beagles. Best counties include Barbour, Marion, Monongalia, and Taylor.
Ruffed Grouse	Gloom and doom – broods are down 80% from 2002; more than 75% of surveyors forecast worse hunting; soft mast is abundant and widespread. Grouse will be widely dispersed; flushing rates will be low. Can your bird dog run rabbits? There was only one survey out of 34 that believed hunting would be better – from Monongalia County.
Raccoon	Similar coon hunting is forecasted for this region. Acorns and black cherry are prevalent at higher elevations, so hunting from the ridge may be productive. Harrison County has the best survey.
Deer	The total deer harvest should be slightly lower in this region. Hunters should note that the white oak mast crop is somewhat better than last year, and the beechnut crop is better than normal. Hunters should note that all counties in this region are open for antlerless hunting with a bag limit of 4 on private land using a combination of Class N or NN and unfilled RG or RRG licenses. . Hunters should check the Hunting and Trapping Regulations

Table 7. (Cont'd) Hunting prospects in Barbour, Braxton, Harrison, Lewis, Marion, Monongalia, Preston, Taylor, and Upshur Counties.

Game Species	2003 Outlook
Deer	Summary for more details about the seasons in this region. Braxton County is the only county that may have a higher total harvest.
Turkey	There are 5 less counties that qualified for the one week (October 25 – November 1) fall season than 2002 (Harrison, Lewis, Marion, Taylor and Upshur). Only Monongalia County in this region qualified. The regional kill should be lower with the loss of these counties. Preston County cooperators are predicting a similar harvest to 2002. Mast conditions were reported better at upland sites. We could not identify a "best" reporting county.
Black Bear	Almost all surveys in all counties report bear numbers up. The addition of Lewis, Marion, Monongolia, Upshur, and the western portion of Barbour County to the one-week (December 8 – 13) gun season without dogs, will increase the harvest in this region. The "best" surveys come from Barbour, Harrison, Marion, Monongalia, and Taylor counties.

ECOLOGICAL REGION 5

Table 8. Hunting prospects in Brooke, Calhoun, Doddridge, Gilmer, Hancock, Marshall, Ohio, Pleasants, Ritchie, Tyler, Wetzel, Wirt, and Wood Counties.

Game Species	2003 Outlook
Gray and Fox Squirrels	The majority of field surveyors predict similar hunting – which means the poor hunting that occurred last year will continue this season. Poor productivity and survival are a result from last years dismal mast crop. This low population of survivors will be dispersed in the abundant hickory that has hit at high and low elevations about equally. Scouting for will pay off. One cooperator commented "great fall for hickory." Best reports are from Doddridge and Gilmer counties.
Rabbits	Cottontail population is about the same or slightly below last year, and similar harvests are predicted. Brooke, Marshall, and Ohio counties have best surveys.
Ruffed Grouse	Twenty-seven of 36 (75%) surveyors predict poor hunting for 2003 (sound like a broken record?). Habitat in this region has succeeded from fields and young forests to sawtimber forests – out of prime grouse coverts and into turkey woods. This coupled with poor survival from wet weather this spring, means a lot of blood, sweat, and tears for pointers and their masters. Widespread and abundant berry crops will have the few birds scattered. Flushing rates will be agonizing.
Raccoon	Similar to slightly better "masked bandit" populations are being reported. The best hunting forecasts are from the Northern Panhandle counties (Brooke, Hancock, Marshall, Ohio), where good amounts of oak are reported. Note also that corn production is reported good.
Deer	Total deer harvest will likely be a little lower this year in the counties in this region. Oak mast crop is similar to last year and near the average for this region. Deer will feed heavily on the beechnuts until they are depleted. Hunters should check the Hunting and Trapping Regulations Summary for more details about the seasons in this region. Best reports come from Brooke, Hancock, and Ohio.

Table 8. (Cont'd) Hunting prospects in Brooke, Calhoun, Doddridge, Gilmer, Hancock, Marshall, Ohio, Pleasants, Ritchie, Tyler, Wetzel, Wirt, and Wood Counties.

Game Species	2003 Outlook
Turkey	Hold on to your britches! Unlike all other regions, turkey brood counts are up in this region from 2002! However, most cooperators feel hunting will be the same or poorer. This may be based on their knowledge that mast is in near similar quantities at all elevation. This will cause flocks to be well dispersed and harder to bag. Pleasants and Doddridge counties have been dropped from the one week fall season; Ritchie and Tyler qualified and are open for fall hunting (along with Wood, Wirt, Hancock, Brooke. Ohio, and Marshall) October 25 – November 1.
Black Bear	Surveys show bruin numbers continuing to expand. A few more should be harvested by bowhunters if proper scouting for feeding areas is done.

2003 MAST SURVEY FIELD NOTES

COUNTY	COMMENTS
Berkeley	Very good mast this year. Walnut, hickory and oaks are loaded. Mast up high tends to be not as abundant as low; oaks did not yield well at high elevation. Occasional chestnut oaks were loaded; same pattern as in Jefferson County. Just not enough to call common.
Barbour	Apples super abundant. Saw quite a few first year red oak caps. Higher up ridge you go the more white oak found. Saw some first year acorns on red oak. Some looper/gypsy moth defoliation on red oak. Hornbeam very abundant. Autumn olive hit. Saw some white oak but scattered. The area is loaded with food for all types of wildlife. This is typical for the oak in this area (scarce). I prescribed a select cut on this property and took out many of the large trees. I feel the young oak still need another year to become established in the stand.
Boone	Bumper crop for autumn-olive.
Braxton	Not many grapevines left on the ridge because of the ice storm.
Clay	Hickory – Black Walnut – Beech mast good. Oaks have very little mast. Oaks hit, but are too spotty to call common. Elaeagnus heavy with drupes.
Fayette	Scattered – not uniform. Anthracnosis may alter some dogwood mast-scattered.

2003 MAST SURVEY FIELD NOTES

COUNTY	COMMENTS
Fayette	There wasn't much of anything along the creek on the way into the WMA. There were a few chestnut oaks that had acorns on them. The beech looks good. Acorns non-existent on this site; most beech trees observed had burrs on them.
Doddridge	Most mast seen in years.
Gilmer	Notice some defoliation on oaks. Some black oak acorns on ridge tops here.
Grant	Pretty sparse throughout area – hard mast scattered thinly! Overall, mast pretty good here. Some of the large (20") trees are loaded. Pretty bleak in this area! A few scattered red oak acorns, but not common.
Greenbrier	Most acorns on oak trees cover less than 20% of the tree's crowns.
Hampshire	Black/Red oak again; very spotty, individual Hickory loaded; oaks (fewer) lightly fruited. Understory soft mast species missing – too many deer. Hickories very spotty, but individual trees w/fruit abundant. Red/Black oaks very spotty, could easily consider scarce. Poor year. – Last year's late freeze and this year's cold and wet weather affected flowering.
Hampshire	A few scattered scrub oak. Normally see some gum and

2003 MAST SURVEY FIELD NOTES

COUNTY	COMMENTS
	sassafras but did not see any; very poor year.
Hancock	Hawthorn and apple are most abundant food sources. Hickories are the most abundant hard mast; some oak mast but very spotty and lots of walnuts. No variation in elevation. Same remarks as low elevation.
Hardy	Overall – fair to good! Walnuts, hickory, red oak almost abundant. Would not be hard to find something to eat along this stretch.
Harrison	Red oak – of 6 trees – only one with acorns. Abundant on that one tree. Yellow-poplar – no fruit seen on several trees. Beech – based on one tree (abundant). Blackberry – most fruit already taken. Hickories and acorns common on the ground. Lots of walnuts. White oak acorns not developed very well – big cap – not much nut at all. Lots of hickory nuts.
Jefferson	Squirrels will still be cutting hickory come season. Occasional chestnut oak would be loaded. Also, a few white oaks had some acorns.
Kanawha Kanawha	Mast conditions – same as higher elevation. Hickory – loaded. Mast very common – however, only a couple species (hickory) were abundant. Blueberry are vividly gone by 1st of August; we have had berries from July 1 to late August.

2003 MAST SURVEY FIELD NOTES

COUNTY	COMMENTS
	There are a few acorns but not enough to get common rating.
Lewis	Good crop of hickory and walnuts in open fields and along roads, less abundant on ridge tops. Soft mast also good in open area.
Logan	Autumn-olive is locally important and bumper levels. Saw several black oaks loaded with acorns – very few other oaks with acorns. Lots of soft mast. Found some black oak acorns – not abundant. Lots of soft mast.
Marshall	All fruit trees appeared to produce better than average. Great amounts of hickory, walnut, white oak, black oak, and apple; no blackberry. Very good year for oak and hickory countywide.
Marion	Have seen a few white oak and chestnut oak acorns, but not many; couldn't find any grapes on vines I saw.
Mineral	Cherries already gone. Blackberry also. White oak common only on big, older trees growing out in the open.
Mingo	Very poor oak. Oak very poor. Good hickory. White, Chestnut oaks, and Yellow-poplar are being defoliated.
Morgan	Cherries gone. Some patches of red oak and whit oak.
Nicholas	Bad – There isn't enough food where I surveyed to feed a mouse.

2003 MAST SURVEY FIELD NOTES

COUNTY	COMMENTS
	I have never seen mast so scarce.
Pendleton	Red oak and white oak production quite variable. Saw a significant amount of first year black oak and scarlet oak acorns. White/red/scarlet oaks do not have a lot of acorn/tree but production area is widespread; no chestnut oak. Along this route hard mast production appears to be a near total failure. Some scattered beech at all elevations and some scattered red oak below 3800 ft. No black cherry at any elevation. Recorded 66.0" rainfall Jan. 1 – Aug. 30 (includes snowfall estimates); 54" snow Jan. 1 – April 9. Abundant bloom on Red Delicious apple but very few apples. Wild trees, lots of apple. The bloom on cherry, apple etc. was abundant this year but the black cherry had no fruit produced. The tame apples at house have very few apples, but the wild apple is abundant. Blackberries did not form. Tame grapes seem to be sporadic and rotting before harvest. No wild grapes seen, lots of vines but no fruit. No late freeze this year, which should have been good for the oaks. However can't find any acorns. To wet when in bloom to pollinate. Red-bud is loaded with beans and catalpa is heavy with fruit. Tame cherries (Black and Red) had excellent crop, but most were rotten from too much rain. Elderberry looks excellent. Not sure why no oak mast -- perhaps too wet to pollinate.
Pocahontas Pocahontas	There are some white oak but very spotty. No acorns.

2003 MAST SURVEY FIELD NOTES

COUNTY	COMMENTS
	Red oak common – some trees loaded – some barren, no acorns on other oaks. Some beech trees loaded – some have no nuts. Beech and cherry will have to carry wildlife. Beech and cherry will be the winter food.
Preston	White oak and red oak acorns are very small and most trees had none. Also – magnolia abundant, and birch (black & yellow) abundant. Basswood abundant. Both hard and soft mast is more scarce this year than last, very wet year.
Putnam	Mast conditions – Good. Better mast production this year --- especially for hickories. I have never seen hickory so abundant.
Raleigh	Occasional white oak abundant. Black cherry mast abundant in open fields. Every dog/coyote dropping had deer hair in it. Beech looks great. The hickories were the only trees on the top of the mountain with any nuts on them. We looked at a lot of cherries on top of the mountain, but there was no fruit on them. In general, we've noticed that cherry trees on
Raleigh	edges of fields and openings did pretty well compared to

2003 MAST SURVEY FIELD NOTES

COUNTY	COMMENTS
	cherries in the woods.
Randolph	Better low than high on this Mt. Better than last year, but still not very good. White oak good but no chestnut oak?? The worst part about this area (??40 sq. mi.) is that less than 50% is still in mast producing age class due to clearcutting over last 15 yrs. Average mast year at this location. Good apple crop. Above average mast year at this location. Super apple crop. Beech is really common to abundant. Beech bark disease continues to take its toll on trees along the road and in the woods. Hawthorn common to abundant. Butternut scarce. Hardly any red oak, scarlet oak, or chestnut oak mast on trees. There were no late season frosts. I believe heavy May rains damaged bloom on some species – oak and cherry.
Ritchie	Red oak had enough trees with nuts to be common but there were so few nuts/tree I went with scarce. Red oak not common by one tree. Maples, ash, and redbud all abundant. Black oak and red oak mast on ridge tops here.
Roane	Saw a significant amount of storm damage to trees.
Summers	Oak does not seem to be prevalent, but soft mast looks

2003 MAST SURVEY FIELD NOTES

COUNTY	COMMENTS
	good. Oak mast about non-existent. Beech looked good, apple trees are loaded.
Taylor	Heaviest walnut/hickory crop for many yrs. Rainfall this summer should result in good quality (i.e. size) of mast crop. Mast conditions considerably poor at low elevations when compared to upland site. Acorn production looks good and soft mast looks very good this year.
Tucker	Everything seems better than last year. Mountain Holly abundant where found. Hickories abundant on some sites. No sign of an acorn! Cherry mast widespread – Apple also. Beech was common on smaller trees and scarce on the large trees.
Wayne	Not seeing many acorns on the oaks. Some chestnut oak in areas; most of the white oaks and occasionally the other species of oak were defoliated this spring/early summer by loopers. The walnut trees that are in Wayne County have abundant mast. Hickory and apple are also abundant. Soft mast in good supply. A lot of pokeberry, greenbrier, and sassafras in burned areas.
Webster	Sugar and Basswood common. Black cherry seems to be abundant in parts of Webster County. Hickory is spotty. Most of the oak and hickory

2003 MAST SURVEY FIELD NOTES

COUNTY	COMMENTS
	that I saw was below 2000 feet in elevation. Although yellow-poplar seemed to be common, production has to be way down due to severe ice damage over most of Webster County.
Wirt	Hazelnut was common. Persimmon – scarce. Chestnut – common to abundant. No white oak found at all.
Wyoming	Found a few oak trees with small numbers of acorns – not much though. Lots of soft mast. Found a few oak trees with acorns – some black oak – only one white oak had acorns. Lots of soft mast. Magnolia – scarce, Hackberry – common. Hemlock – scarce. Hawthorn was seen on road entering site. Locust – common. Black cherry abundant in open areas but not forest areas.

2003 HUNTING OUTLOOK FIELD NOTES

COUNTY	COMMENTS
Berkeley	I have seen a good number of young turkeys in Berkeley County this year. The squirrel population appears to also be very high in this area, as well as raccoon. Seen a few quail. Squirrels will still be in the hickories come hunting season. Hunters will benefit from scouting as there are pockets of acorns. Best areas are on the ridgetops.
Boone	Turkey/grouse broods scarce this year. Lots of fawn deer.
Doddridge	Although a wet, cold spring more turkey poults than first thought.
Fayette	Mast late and not uniform. In general, soft mast (apples, dogwood, autumn olive, hawthorn) seems to have done well all over. The beech looks good this year in most areas as well. We've noticed that cherries on field edges seem to have more fruit than cherries in the woods.
Grant	Very few nice racks – a lot of scrubs! Deer numbers seem down a little.
Hampshire	Saw squirrels all summer. Bear should disappear before gun season and be plentiful for problems next spring. Deer numbers appear lower but may be influenced by wet weather keeping woods greener (understory); turkey and grouse haven't seen any yet.
Hancock	Trappers should find a surplus of all furbearers with the shortened season last fall. Coyote population appears to be growing fast. Wet spring resulted in a late but good hatch of turkeys. Pheasant crow count survey is back up to normal and a lot of young birds seen. Lots of corn on the area this year. Should see an increase in deer and raccoon this fall.

COUNTY	COMMENTS
Harrison	Lots of food for squirrels, deer, and bear.
Kanawha	Mast conditions are better – making it more difficult to bait. Have not seen the first turkey brood in Kanawha County – cold/wet spring – may have impacted broods. I have not seen any grouse broods this summer. I saw one hen turkey with three poults in early June, wet conditions were hard on them in late spring in this area.
Lewis	Due to cold and wet weather this spring and early summer, very few turkey and grouse broods were seen.
Lincoln	Poorest brood year I have seen.
Logan	Poor grouse/turkey brood year. Lots of fawns. Deer on the increase. Have heard a few quail and seen several woodcock.
Marion	Winter weather and poor mast conditions this past fall should result in lower squirrel numbers (poor survival and production). Heavy vegetation/cover should result in above average survival for cottontails. Bear numbers continue to increase in both counties as population expands and moves toward the western counties. Large die off of deer last winter, but see lots of fawns.
Mineral	More bears but no food; they'll probably den early. A little more white oak at higher elevations. Surprising lack of scrub oak all over.
Pendleton	High elevations -- hunting will be dependent on the small pockets of beech and red oak. Areas around apple trees should be productive early. Low elevations – widespread acorns with small crop production will keep turkey, deer, and bear on the move. Squirrels should be concentrating in hickory until it is cut out. If weather cooperates, the oak mast may keep bears out of dens a little later than last year. Squirrels common at lower elevations and many killed on highway. At higher elevations, few if any squirrels. Deer population is still high but less than last year. Five dead deer

COUNTY	COMMENTS
Pendleton	within 100 yds of home after Presidents Day snowstorm. Seen very few turkeys this summer. Bears are more common.
Pocahontas	Bad year for turkey nesting and poult survival. I have not seen a single brood this year. Saw plenty of grouse last year – best in 10 yrs, but wet, cold May and June probably hurt young birds this year. Acorns are almost non-existent in most areas. Squirrels should concentrate near hickories and beech. With some winter loss and scattered mast conditions, should be fewer deer available for hunters.
Monongalia	More bear complaints this year than last; also, more bears killed on I-68; been seeing more turkeys this year too!
Putnam	Mast conditions better – will require some pre-season scouting trips. Very few turkey broods.
Preston	No shortage of deer!! Fisher and bear populations are on the rise.
Raleigh	Hearing about more turkey broods. Birds will be concentrated.
Randolph	Last fall and winter hurt even if there were no significant reports of winterkill. Number of yearling deer will be down some. Antlers will probably be smaller. Lot of does w/only one fawn this year. There is some food so bear bow should be down some, bear gun will depend on weather in December. In Northern Randolph County, squirrel numbers appear to be about the same as last year, but should be well scattered due to the abundance of beech and hickory. Bad hatch year for bird species.
Summers	The cold wet spring had an effect on turkey hatches; however, there were many hens that reset. As of the first

COUNTY	COMMENTS
Summers	of August, many observations were made of adult hens with rather small size broods. The young were small.
Taylor	Hard winter and wet spring, in conjunction with poor brood observations, would indicate poor grouse and turkey outlook. Increased bear sign and sightings as well as rabbit sightings would indicate a better outlook.
Tucker	In Tucker County, I think the turkey population was affected by the hard winter and wet spring, while the deer will likely be moving less to feed due to the increased mast this year.
Upshur	Poor reproduction on turkeys and grouse should keep harvests lower. Squirrel numbers appear higher. Can we harvest more than 253,000 deer this year? Squirrels are already cutting beech and hickory. Bear hunting better due to longer season and more bear may be offset by more mast.
Webster	Turkey and grouse broods seem smaller in numbers this year. Coyote populations on increase.
Wetzel	This should be a great fall for “hickory flavored” gray squirrel. Don’t forget to take a kid hunting this season.
Wirt	Spring rains had greater impact on grouse and rabbits not so much on turkeys. Bear population is due to blossom sometime soon.
Wyoming	We have had very poor turkey and grouse brood production for several years. The southern end of Wyoming Co. is especially down. Wildlife was seen on site but there was little cover on ground. Not a lot of food crop available. Hunting should be slightly above average unless unusual summer weather affected reproduction/eggs etc.