

# 2008 WEST VIRGINIA MAST SURVEY AND HUNTING OUTLOOK



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*Wildlife Resources Bulletin Number 08-5*

**WEST VIRGINIA DIVISION  
OF NATURAL RESOURCES  
WILDLIFE RESOURCES SECTION**



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# 2008 West Virginia Mast Survey

**Jim Evans, Randy Tucker, Eric Richmond, and William Igo**

The Division of Natural Resources (DNR) in cooperation with the Division of Forestry annually surveys the State to determine a relative abundance of soft and hard mast of important trees and shrubs. Information on the quantity of wildlife food is provided to our cooperators, our hunters, and the news media.

Two hundred ninety five (295) locations covering all regions of West Virginia were surveyed in 2008. Professionals from a variety of disciplines including wildlife managers, foresters, wildlife biologists, retired wildlife managers and biologists, several conservation officers, one Natural Resources Commissioner, and a few other cooperators devoted their time to collect data. Without the efforts from all of these individuals this survey would not be possible. We sincerely thank everyone and extend our special thanks to retired persons and sportsmen that gave their time and effort without any monetary compensation.

The mast survey is a relative estimation of mast produced by 18 different species. A sample of the mast survey form is included in the appendix. To collect mast survey information, cooperators are assigned counties and areas familiar to them. Mast data is subjectively evaluated as abundant, common, or scarce. The surveyor also documents species not seen. The mast index is calculated for each species by the following formula:

$$\text{Mast Index} = \left[ \frac{\text{abundant observations}}{\text{total observations}} + \frac{\text{common observations} \times 0.5}{\text{total observations}} \right] \times 100$$

The mast index is calculated by species for each ecological region and elevation (high and low). The current year's index is compared to the previous year's index. It is also compared to a long-term average index spanning the life of the survey.

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

Compared to the 2007 survey, the majority of mast species increased considerably (Table 1). Indices from only five species (white oak, chestnut oak, black/red oak, scarlet oak, and sassafras) declined from last year's survey. The most notable increases were observed in non-oak species. Compared to last year, a

considerable increase in the mast index was observed in beech (143%), walnut (145%), hickory (134%), and hawthorn (131%). Indices of several soft mast species were higher than last year. Indices for crabapple, blackberry, and apple were above 200%.

Oak mast was the greatest loser this year. Except for scrub oak, all of the oaks (white, chestnut, black/red, and scarlet) declined from last year's values. Fortunately, the sizeable increase in beech, walnut, and hickory will help compensate for the decline of oaks.

Compared to the 38-year average, the 2008 mast index for all species combined increased for the second consecutive year (Fig. 1). The largest drop (Table 2) was observed for black/red oaks (32%), scarlet oak (35%), and greenbrier (11%). Six species (beech, walnut, hickory, hawthorn, crabapple, and apple) increased more than 50%.

The index for combined hard mast species (beech, hickory, and oaks) and black cherry was above the 38-year average (Fig. 2), and it somewhat compensates for the decline of oak mast (Fig. 3). The combined oak mast index declined for the second consecutive year and dropped well below the 38-year average. Because mast abundance can vary at different locations, caution should be exercised when comparing the abundance values of these indices. Nevertheless, the absence of acorn production can be an important predictor in harvest.

Soft mast species (blackberry, hawthorn, yellow poplar, crabapple, and apple) were substantially above the 38-year average. Greenbrier and grape were essentially the same as for 2007. These species are of particular importance because of their use by grouse and turkey.

As a rule, mast production was about the same at low elevations as for high elevations. Beech, crabapple, and greenbrier were found in greater abundance at lower elevation sites (<2500 feet) than at high elevation sites. Hickory, black/red oak, and black cherry were more abundant at high elevation sites than lower elevation sites.

When the mast survey began in 1970, our main purpose was to use it to forecast squirrel populations and hunting outlook. Current mast conditions impact overwinter survival and reproductive success of many wildlife species.

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.

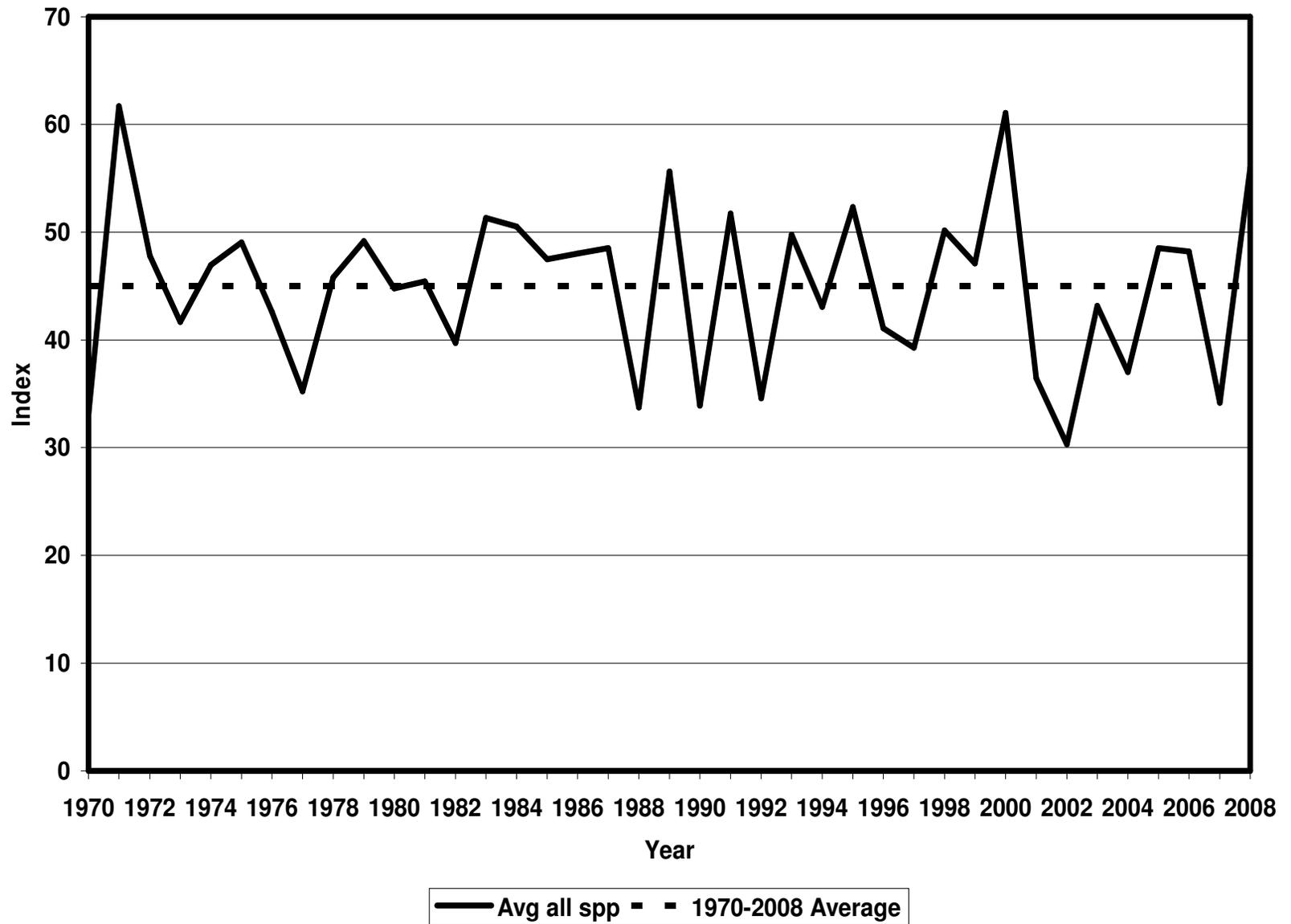


Figure 1. Indices of all mast species combined, 1970-2008.

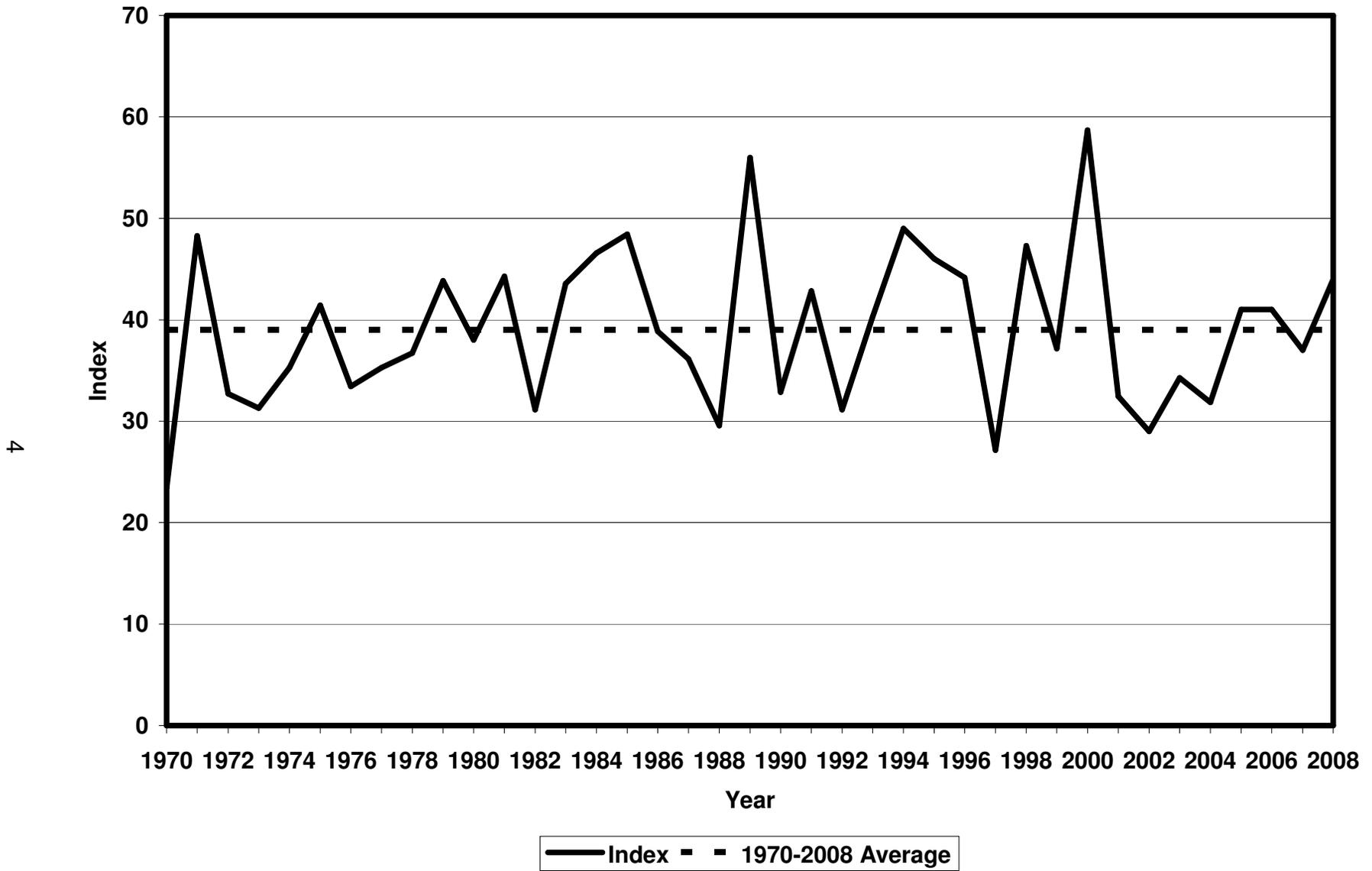


Figure 2. Indices of beech, hickory, oaks and black cherry, 1970-2008.

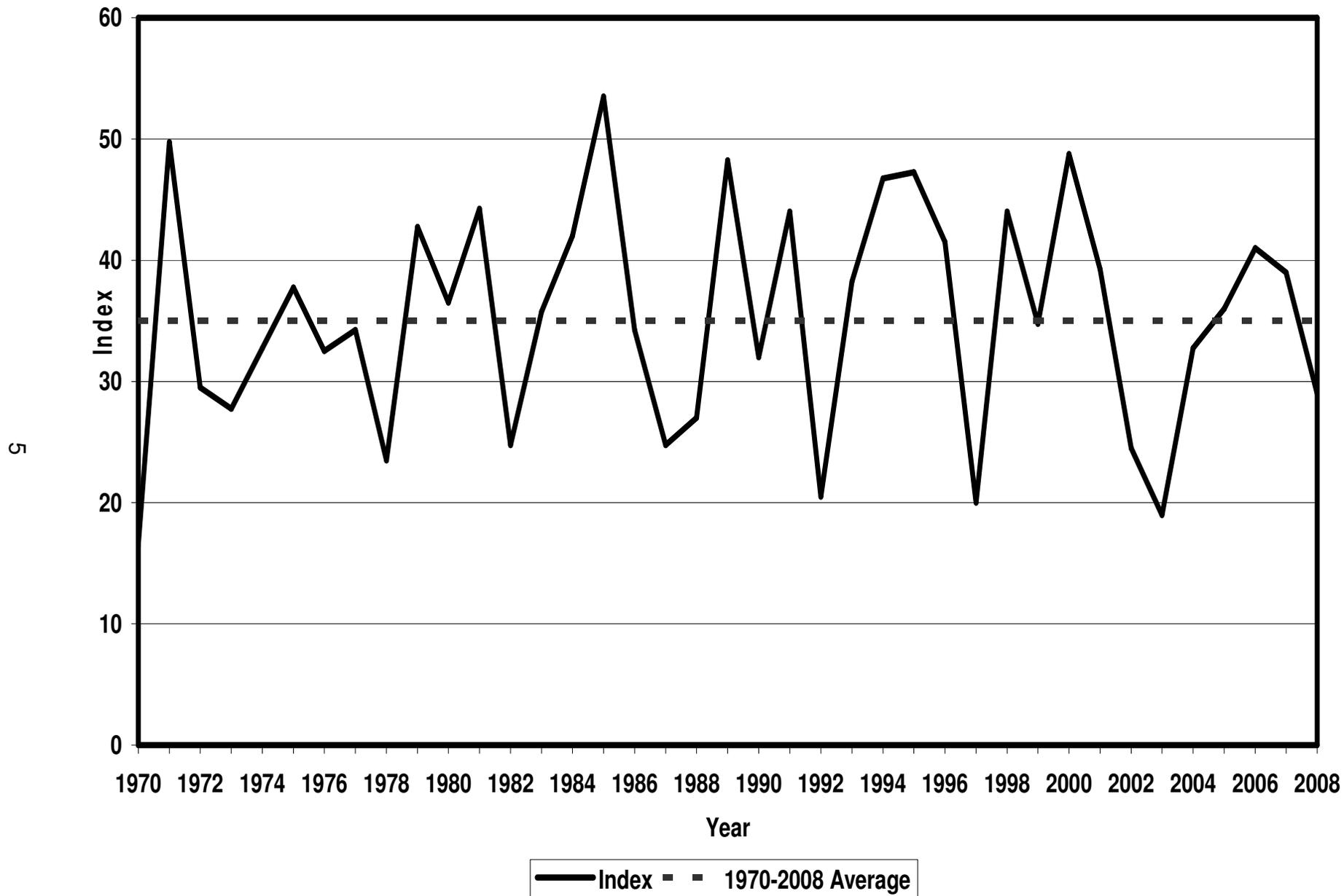


Figure 3. Index of oaks, 1970-2008.

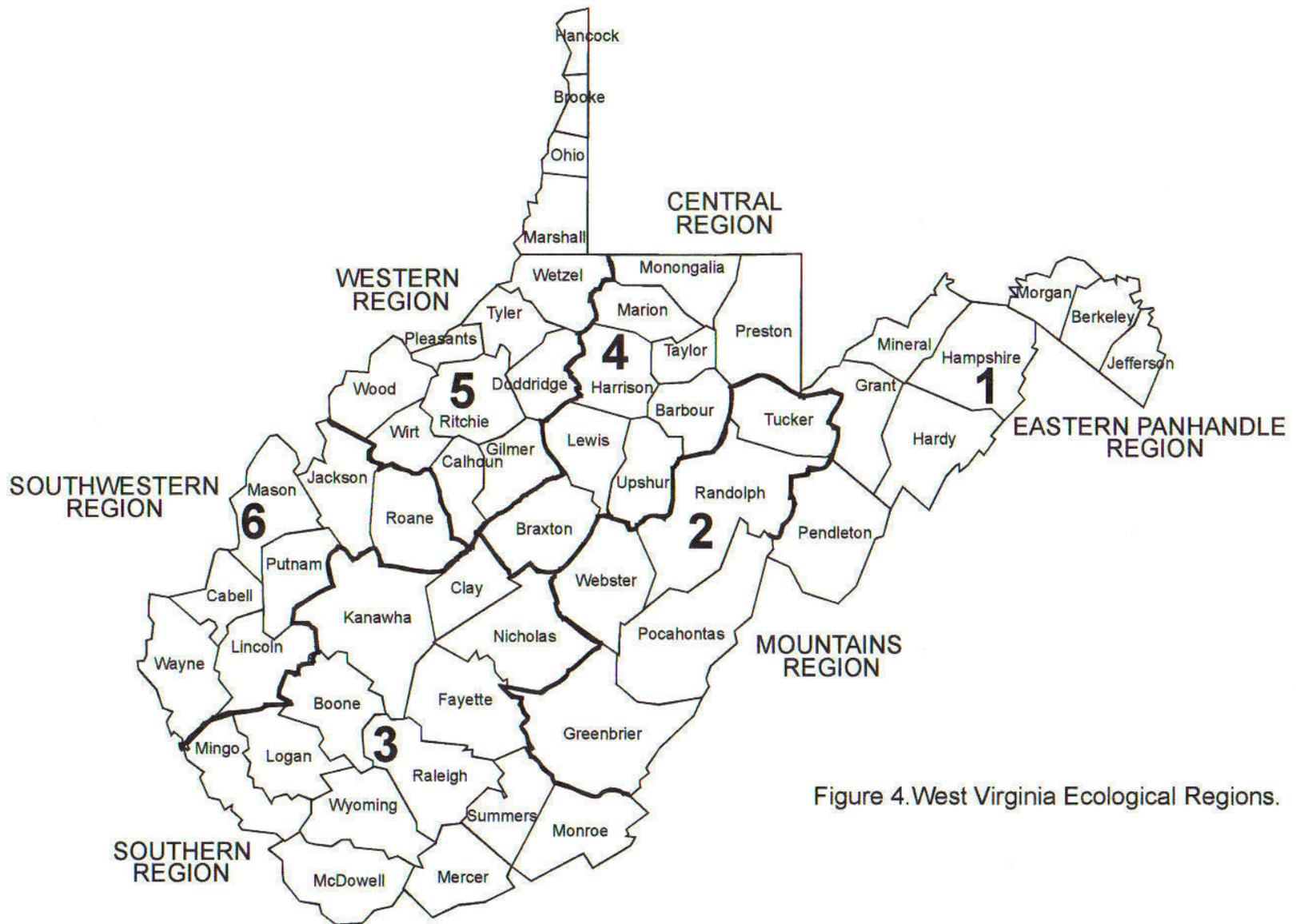


Figure 4. West Virginia Ecological Regions.

## **REGION 1 (EASTERN PANHANDLE)**

Mast conditions in 2008 are up considerably from 2007 values for almost all mast species surveyed except oak, grape, greenbrier, and sassafras. Most of the soft mast species are well above the 38-year average. Grape is down 10% in this region. All oak species are below the 38-year average and the Eastern Panhandle has the best hickory in the State this year.

Mast from most understory trees and shrubs increased 85 to 147% from last year with dogwood, crabapple, and hawthorn all bearing well. Hunters should note the large amount of grouse food in the woods this fall. Of the understory shrubs and trees only sassafras and greenbrier are below the 38-year average.

While mast production was somewhat higher than last year, acorn prevalence was well below the 38-year average and will affect game abundance in these stands. Walnut and hickory were well above last year's average and the 38-year average. Black cherry was up considerably from last year and above the long term average. Beech was about the same as the 38-year average. Look for bushy-tails in the hickory early in the season. Apple crops are abundant this year. White-tails will be taking advantage of both apples and crabapples.

Most species produced about the same amount of mast at both high and low elevations for this region with the exceptions of blackberry, greenbrier, and sassafras, which were slightly better at higher elevations. There was no noticeable difference in hickory but the walnut crop fared better at higher elevations. Most of the understory species were about the same at all elevations.

## **REGION 2 (MOUNTAINS)**

Beech, hickory, and walnut are the big hard mast producers in the Mountains. All other hard mast species are equal to or below the 38-year average and all but white oak are lower than last year. White oak is 50% below the long term average and 6% higher than last year. Chestnut oak and red oak are down considerably from last year and the long term average. There is a bumper crop of beechnuts in the Mountains which is up 241% from last year but still 27% below the long term average. Look for good hunting in hickory and beech stands this fall. Black cherry production is also up again (399%) this year from the good crop two years ago and is 96% above the 38-year average.

Production of trees and shrubs in the understory were all above the 38-year average with the exception of sassafras. Only sassafras produced poorer than last year. Grape was up 70% over last year and 12% over the long term average.

Hard mast conditions at lower elevations were better than the overall level for the Mountains. Beech was about the same or better at all elevations while hickories and walnut were better in the lowlands. White oaks and chestnut oaks produced better at

lower elevations, but overall acorn production was down considerably. Black, red, and scarlet oak produced more acorns at higher elevations which seemed to be the rule in both the Mountains and northern counties. Black cherry production is very good at both high and low elevations. Soft mast species are generally good at all elevations.

Based on mast conditions, squirrel populations should be similar to slightly down in this region next year. Mast from walnut, hickory, and beech will help compensate the decline in acorn production.

### **REGION 3 (SOUTHERN)**

Compared to last year, mast production in the Southern Region is about the same for beech, walnut, and white oak; however, beech and walnut had good mast in 2007 and are 95% and 101% above the long term average. More good news in this region is that hickory (122%) and scrub oak (110%) showed big increases from last year in mast production, and only black, red, and scarlet oak were below the 38-year average indices. Soft mast is excellent in this region with apple (55%) well above the long term average. Black cherry is also good and is 30% above last year's index and remains well above the long term average. Look for turkeys concentrated in beech and black cherry stands. The white oaks are above the long term average and with good production of hickory, beech, and walnuts this means more squirrels in 2009.

Understory tree and shrub mast production for the Southern Region are much higher than last year. This increase comes after relatively poor production of soft mast species last year. There is a big increase in sassafras (70%), dogwood (86%), and crabapple (474%) production over last year. Grape production is up 19% over the 38-year index.

Beech, scrub oak, and dogwood mast production is slightly better at lower elevations, while hickory, white oak, and red oak are better at higher elevations. Soft mast is good high and low, with hawthorn and apple slightly better up high.

### **REGION 4 (CENTRAL)**

Beech (153%), walnut (113%), and hickory (119%) production are all up from 2007, and is the exact opposite of last year's mast production for these species. These stands are your best bet for early season squirrel hunting. However, production of all the oaks is down considerably from last year. Black cherry is down in the Central Region and is 24% below the 38-year average. Yellow-poplar showed a significant increase in "tulip" production. Apples did well in this region as they did in most of the

State, with a 192% increase over last year and a 50% increase over the 38-year average. Look for deer feeding on apples and crabapples this fall with the decline in acorns.

Understory trees and shrub species generally followed the same trend as the rest of the state with good production. Only sassafras and greenbrier produced less than the 38-year average. Grape production for 2008 is down 15% over the long term index. Both crabapple and apple are up at 175% and 192% respectively from last year.

Production of hickory and all oaks was better at higher elevations in this region. Beech, crabapple, yellow-poplar, and hawthorn were better producers in the lower elevations. Walnuts were good at all elevations.

### **REGION 5 (WESTERN)**

As in Region 4, hard mast conditions in the western part of the state appear to be opposite those in 2007. An increase in beech (141%), walnut (216%), and hickory (160%) from 2007 tempers the poorer average production in acorns this year. Hickory groves will produce good squirrel hunting this year. White oak, chestnut oak, black/red oak, and scarlet oak were all below the 38-year long term average production. Scrub oak, however, was 192% above the 38-year index. Black cherry was 42% below last year and 31% lower than the long term average. Squirrels will be in hickory and beech early in the season. Apple produced well in this region as well as statewide.

Understory trees and shrubs are much better than last year. Hawthorn, crabapple, blackberry, and dogwood all showed good production this year. Wild grape production was down 29% in this region from last year.

Mast production was about the same at most elevations in this region. Black and red oaks should be found more abundantly at lower elevations this year, but are well below the 38-year average. At higher elevations look for better crops of hickory, hawthorn, dogwood, and blackberry.

### **REGION 6 (SOUTHWESTERN)**

The Southwestern Region joins most of the state in having good production of beech, walnut, and hickory this year, but in addition to these species the white oak group (chestnut oak and white oak) "hit" this year. The red oaks (red oak (33%), black oak (33%), and scarlet oak (28%)) are down from last year and the 38-year average index. The southern regions are usually consistent mast producers from year to year. However, since the white oak group "hit" this year we would expect the red oak group to

have a good fall in 2009. This should be a good year for squirrels and produce enough food to overwinter a good population of squirrels in 2009. Black cherry was up 7% over the 38-year average and down 19% from last year.

Understory mast trees and shrubs surveyed produced much better mast than last year. Crabapple and apple were up 166% and 77% from last year. Wild grape was 4% better than last year and 45% above the long term average. Hawthorn is another good crop this year while dogwood is up 115% from last year and well over the long term average. Look for the soft mast to scatter ruffed grouse during the early season.

White oak, chestnut oak, and scarlet oak have better acorn crops at low elevations in this area as opposed to most of the State. Blackberry, crabapple, greenbrier, and apple also produced better along the bottomlands. Conversely, grape and yellow-poplar produced better on the ridges.

**Table 1.** 2008 statewide index compared to 2007 mast index.

<b>Species</b>	<b>2007</b>	<b>2008</b>	<b>Percent Difference</b>
Beech	25	62	143
Walnut	28	70	145
Hickory	33	77	134
White Oak	34	34	-2
Chestnut Oak	39	32	-19
Black/Red Oak	43	29	-33
Scarlet Oak	38	21	-44
Black Cherry	46	54	18
Grape	45	46	2
Scrub Oak	34	45	31
Yellow Poplar	31	61	100
Hawthorn	35	81	131
Crabapple	27	82	200
Dogwood	40	67	69
Blackberry	23	73	211
Greenbrier	30	41	35
Sassafras	30	29	-4
Apple	22	82	279
Other	46	78	71

Table 2. 2008 statewide index compared to 38-year average mast index.

<b>Species</b>	<b>38-year Average</b>	<b>2008</b>	<b>Percent Difference</b>
Beech	38	62	64
Walnut	36	70	92
Hickory	46	77	67
White Oak	36	34	-6
Chestnut Oak	31	32	1
Black/Red Oak	42	29	-32
Scarlet Oak	33	21	-35
Black Cherry	45	54	19
Grape	41	46	12
Scrub Oak	39	45	13
Yellow Poplar	45	61	36
Hawthorn	48	81	69
Crabapple	53	82	53
Dogwood	48	67	39
Blackberry	54	73	35
Greenbrier	46	41	-11
Sassafras	41	29	-29
Apple	54	82	52
Other	67	78	17

**Table 3.** Percent difference in mast index by species between 2007 and 2008 by ecological region.

Species	Ecological Region					
	1	2	3	4	5	6
Beech	n/a	5	241	0	153	141
Walnut	147	123	0	113	216	167
Hickory	46	0	122	119	160	233
White Oak	-69	6	0	-7	-31	117
Chestnut Oak	-63	-71	38	-11	-49	81
Black/Red Oak	-40	-32	-4	-18	-62	-33
Scarlet Oak	-50	14	-7	-50	-80	-28
Black Cherry	68	399	30	-32	-42	-19
Grape	-10	70	30	-22	-29	4
Scrub Oak	31	21	110	0	n/a	n/a
Yellow Poplar	25	267	54	83	0	127
Hawthorn	125	130	0	84	55	0
Crabapple	147	342	474	175	77	166
Dogwood	85	31	86	39	66	115
Blackberry	79	220	0	103	200	245
Greenbrier	-57	66	84	-1	-10	129
Sassafras	-65	-48	70	-34	-17	0
Apple	128	0	0	192	203	77
Other	74	95	102	5	50	340

Table 4. Percent change in 2008 mast index by species from average of years (1970-2008) by ecological region.

Species	Ecological Region					
	1	2	3	4	5	6
Beech	52	-27	95	26	83	115
Walnut	79	85	101	73	78	103
Hickory	85	57	67	44	68	67
White Oak	-64	-50	14	6	-17	52
Chestnut Oak	-46	-65	60	10	-29	39
Black/Red Oak	-30	-49	-14	-45	-46	-23
Scarlet Oak	-29	-30	-37	-36	-60	-7
Black Cherry	62	96	42	-24	-31	7
Grape	33	12	19	-15	-13	45
Scrub Oak	-10	21	42	17	192	-100
Yellow Poplar	46	34	33	10	15	74
Hawthorn	148	39	99	49	71	115
Crabapple	82	40	67	31	57	73
Dogwood	48	20	40	18	57	52
Blackberry	27	31	47	20	57	65
Greenbrier	-44	-7	27	-38	-32	30
Sassafras	-46	-66	20	-43	-43	-3
Apple	41	51	55	50	38	62
Other	36	0	22	-16	38	22

# 2008 West Virginia Hunting Outlook

**Jim Evans, Randy Tucker, Eric Richmond, and William Igo**

Predictions of hunting success are based on multiple considerations: current and previous years' mast conditions, brood reports of ruffed grouse and wild turkeys, nuisance complaints, information from other surveys (Spring Gobbler Survey, Bowhunter Survey, Raccoon Field Trial Survey), adjustments in regulations (such as bag limits, permit allocations, additional counties for antlerless season, and season length) and observations 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 volunteer cooperators. Mast often dictates overwinter survival and reproductive success of many wildlife species the following year. This year, season changes (addition of an early September season for bear and additional counties for antlerless deer season) should have positive impacts on overall harvests and hunter success for bear and deer.

Observations of field personnel were recorded on Hunter Prospects forms (see Appendix). The returned Hunter Prospects forms were summarized by the authors and used as an evaluation tool to aid in determining hunting forecast.

Table 1 is a quick check chart of predicted statewide harvests of major game species for 2008. Harvests of most game species are expected to be similar to the good harvests of 2007. Projected deer kills by season and regions are depicted in Table 2. Fall wild turkey forecasts are shown in Table 3. Hunting prospects on a regional basis are provided in Tables 4 through 8. Mast conditions vary throughout the State, so hunters will need to scout their favorite hunting spots to ensure success. Hunters are reminded this outlook is designed to forecast general prospects and is not intended to predict hunting conditions at specific locales—preseason scouting will be a wise venture..

## 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. In 2007 the oak mast index was above normal but hickory and walnut production was below average. Based on this information forecasters are predicting that **the squirrel population statewide will be high again this fall!**

After three years of decent acorns, oaks produced a lower than normal acorn crop this year; however, hickory and walnut production is good. Squirrel populations should be up from lows of recent years so look for decent overwinter survival and about

the same population of squirrels in 2009. Walnuts produced well statewide and are a staple in the diet of fox squirrels. Look for good survival of fox squirrels in 2009.

This will be a bumper year in many places for squirrels -- **look for good squirrel hunting throughout most of the State**, but in the Eastern Panhandle, Mountain, Central and Western regions limited acorn production may cause squirrels to move looking for food, so hunting could be a feast or famine proposition. Generally, there are better acorns on the higher ridges except for the Western and Southwestern regions.

Squirrels will be “cutting” hickory and abundant beech nuts early so look for good hunting in the hickory groves and beech flats if they produced in your area. Hunters also need to keep in mind that the second litter of squirrels is usually not available until after mid-October so hunters that hunt late in the season will benefit from the addition of juvenile squirrels to the population.

## **Cottontail Rabbits**

All regions of the State are reporting cottontail numbers similar or higher than 2007. Good rainfall in the spring and early summer months resulted in lush cover and abundant bunnies. The late summer drought throughout most of the state will probably lower populations somewhat before season, but **hunting should be similar to slightly improved over last year**.

## **Raccoons**

A repeat of 2007... and 2006... **similar to better hunting is forecast for 2008**. This year, out of 88 hunting outlooks received from cooperators, only one predicted worse hunting. However, abundant soft mast and beech crops throughout the State should have 'coons in many locales very dispersed, resulting in fewer strikes per night. Overall, statewide masked bandit numbers appear to be stabilizing.

## **Deer**

A whopping 97% (92 of 95) forecasts predict better deer hunting for 2008. Indeed, many cooperators look for **higher archery, muzzleloader, buck, and antlerless harvests for this year**. Liberalization of the antlerless season—opening more counties, increasing the bag limit in many counties—should result in an increased kill. Poor weather conditions last year during the first week of buck season resulted in a large number of antlered deer carrying over into this hunting period, meaning more and bigger bucks will be harvested. With proper scouting, bowhunters should do slightly better than 2007. Deer should be utilizing apple trees and white oaks in and near fields. All regions of the State are anticipating similar to better hunting. Due to numerous

changes in deer regulations, hunters should refer to the 2008-2009 Hunting and Trapping Regulations Summary for detailed information in areas they expect to hunt.

## **Black Bear**

Regulation changes designed to lower numbers **should result in another record bear harvest—if** an early winter with severe cold and heavy snows don't hamper gunhunters. An early September season has been added, with four southwestern counties (Boone, Fayette, Kanawha, and Raleigh) having a September 18-27 hunt and eleven other counties (Barbour-east Rt 92, Grant, Greenbrier, Hardy, Nicholas, Pendleton, Pocahontas, Preston, Randolph, Tucker, Webster) with a one week hunt (September 22-27). Also, an additional bear may be taken in Boone, Fayette, Kanawha, or Raleigh counties. See the 2008-2009 Hunting and Trapping Regulations Summary for more details.

Bowhunters will face more of a challenge this year as abundant cherry, beech, and soft mast crops disperse the bears. Therefore, we expect a slightly lower archery harvest, but this should be compensated by a record gun kill. Hunters in oak forests should note that the higher you go in elevation, the more acorns are prevalent.

## **Wild Turkey**

Brood counts statewide (through August) are currently down 15% from 2007. This is actually quite a rebound since counts were down 40% through July. Obviously re-nesting hens and dry August conditions meant good late brood survival. August had the highest brood counts for the year. Brood reports are down 19% in the Eastern Panhandle and 8% in the Mountain counties—the traditional fall hunt areas. Abundant cherry and beech crops that “hit” at all elevations should have birds well dispersed. Flocks may be concentrated on ridges and higher slopes in oak forests. Overall, we predict **the fall harvest will be lower than last year**. However, based on better poult productivity in 2007, we expect **a higher spring 2009 kill**.

Fourteen traditional fall-hunt counties will be open for a 4-week season October 25 through November 22, 2008. Preston County will open October 25 with the season ending November 8. Eleven counties (Brooke, Hancock, Harrison, Marshall, Mason, Monongalia, Pleasants, Summers, Upshur, Wirt, and Wood) will be open October 25-November 1. Specific turkey regulations are contained in the 2008-2009 Hunting and Trapping Regulations Summary, which hunters can obtain at local license agents and Division of Natural Resources offices.

## Ruffed Grouse

The flushing rate (1.1 per hour) for the 2007-2008 hunting season was just slightly lower than the rate in 2006-2007 (1.2 per hour). We are expecting this coming season's flush rate to dip below one per hour—brood counts are running 57% below those of last year! Those steady, constant rains in May and June certainly took their toll on nests and chicks. Abundant grape, greenbrier, dogwood, thornapple, and other soft mast foods will have the few birds out there widely scattered. This means **very poor hunting for the 2008-2009 season**. Late season hunters should seek out greenbrier thickets, grape arbors, and beech groves in cut-over areas.

## Wild Boar

Since the hog season was adjusted in 2003, eliminating the December gun season, boar harvests have been low. The bulk of the harvest in 2007 came from the area in Boone and Logan counties close to the original release site in the Spruce-Laurel Fork of the Little Coal River. The population is considered to be growing modestly. However, good food conditions will have hogs scattered creating a scenario where **both archery and gun harvests will be similar to last year**.

Table 1. 2008 quick check chart of predicted statewide wildlife harvests.

<b>Species</b>	<b>More</b>	<b>Similar</b>	<b>Lower</b>
Gray and Fox Squirrels		X	
Cottontail Rabbits		X	
Ruffed Grouse			X
Raccoon		X	
White-tailed Deer	X		
Wild Boar		X	
Wild Turkey			X
Bear	X		

Table 2. 2008 quick check chart of deer harvest forecast by region and season.

<b>Region</b>	<b>Season</b>				
	<b>Bow</b>	<b>Buck</b>	<b>Antlerless</b>	<b>Muzzleloader</b>	<b>Total Kill</b>
1	Higher	Higher	Higher	Higher	Higher
2	Similar	Slightly Higher	Higher	Higher	Higher
3	Slightly Lower	Slightly Higher	Higher	Higher	Higher
4	Higher	Slightly Higher	Higher	Higher	Higher
5	Higher	Similar	Similar	Similar	Similar
6	Similar	Slightly Higher	Higher	Higher	Higher
Statewide	Slightly Higher	Slightly Higher	Higher	Higher	Higher

Table 3. 2008 quick check chart of wild turkey harvest forecast by region.

<b>Region</b>	<b>Higher</b>	<b>Similar</b>	<b>Lower</b>
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.

<b>Game Species</b>	<b>2008 Outlook</b>
Gray and Fox Squirrel	<p>This region has good hickory nut, walnut, and beechnut production and with a bumper crop of squirrels overwintering from three good mast years, look for excellent early season hunting in the hickory groves. Mast conditions in 2008 are poorer than last year, especially acorn production; however, good hickory and walnut production is considerably above the long term average. All oak mast species are below the long term index so look for squirrels cutting hickory early and in the walnut groves late.</p> <p>Soft mast production is good in this region and squirrels may utilize apple and dogwood. Mast reports other than beech (which is better on ridge tops) are about the same at all elevations.</p> <p>Most counties reported the same numbers of squirrels for 2008 as in 2007.</p>
Rabbits	<p>Cottontail populations are reported to be similar to 2007, which wasn't a bad bunny year. Drought conditions appear to be less severe than in other areas of the State, so good numbers should still be around for the November 1 opening.</p> <p>Good reports come from all counties except Berkeley.</p>
Ruffed Grouse	<p>Brood reports are running 20% lower than last year and all surveyors in this region are forecasting similar to poorer hunting. Hawthorn, crabapple, dogwood, and beechnuts are abundant with grape hitting well in pockets—so ruffies should be well scattered.</p> <p>The better surveys are from Hampshire, Hardy, Mineral, and Morgan counties.</p>
Raccoon	<p>Similar to better hunting is expected from cooperators. 'Coons may be visiting unharvested corn fields and soft mast thickets early in the season.</p> <p>The best surveys are from the "extreme east" counties: Berkeley, Jefferson, and Morgan counties.</p>

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

<b>Game Species</b>	<b>2003 Outlook</b>
Deer	<p>Like last season, most surveyors are predicting better deer hunting this year from the previous year. Increased antlerless opportunities (see the 2008-2009 Hunting and Trapping Summary for particulars) should culminate in higher antlerless and muzzleloader harvests. Buck harvests should increase due to more “carryover” bucks from last season. The archery kill is a little more tricky to predict, but a kill similar or slightly higher is expected. Proper scouting for trails and feeding sites will greatly aid in a successful hunt.</p> <p>Hunters should be aware of the Hampshire County CWD (Chronic Wasting Disease) Containment Area. Please refer to the special regulations regarding deer carcass transport and baiting and feeding of wildlife within the Containment Area (page 11 of the 2008-2009 Hunting and Trapping Regulations Summary).</p>
Turkey	<p>Productivity in this region is currently down 19% from 2007. Cooperator observations lead them to predict lower harvests. Beech and cherry are not predominate trees in this area, so with acorn crops down from last year, birds may be concentrated around thornapple and crabapple thickets, dogwoods around field edges, and grape arbors that have “hit”.</p> <p>All counties in this region except Jefferson are open to fall hunting. Improved hunting was predicted only for Mineral and Morgan counties.</p>
Black Bear	<p>Almost all surveyors are forecasting a higher harvest in this region. Grant, Hardy, and Pendleton counties are open for an early September gun season with dogs allowed. With limited acorn production, many bears may be feeding on the abundant hickory nuts available. String-gun nimrods should look for apple trees that are being visited by bruins.</p> <p>All counties but Morgan and Jefferson qualify as “best” counties.</p>

## ECOLOGICAL REGION 2

Table 5. Hunting prospects in Greenbrier, Pocahontas, Randolph, Tucker, and Webster counties for the West Virginia 2008 Hunting seasons.

Game Species	2008 Outlook
Gray and Fox Squirrels	<p>Spotty, poor acorn and hickory nut production throughout most of this region last year has resulted in low bushytail numbers in the Mountains for 2008. Lower populations and abundant hickory nuts mean bagging a limit will be a challenge. Hunters may be more successful hunting the bottoms and lower elevations where only hickory, walnut, and beechnuts have hit good. Ridges and higher elevation have those foods in abundance too, but also have good supplies of acorns. Look for cuttings below hickory trees—squirrels prefer certain trees over others.</p> <p>Best reports are from Pocahontas County.</p>
Rabbits	<p>Constant rains in the spring and summer months produced a lot of cover and a lot of bunnies. Dry conditions in August have reduced cover somewhat, but late summer rains may salvage loss of cover, particularly along bottoms. Like last year, this season should be good.</p> <p>All counties in this region qualify in the “best” category.</p>
Ruffed Grouse	<p>Steady rains throughout May and early June spelled doom for ruffy chicks—brood counts are down 57% in this region! This, combined with abundant, widespread soft mast crops such as grapes, greenbrier, dogwood, and thornapples that will have birds widely scattered, means lower flushing rates and poorer hunting.</p> <p>Pocahontas and Randolph have the best reports.</p>
Raccoon	<p>Masked bandit numbers are down or similar in most areas of the Mountains. Soft mast foods are abundant at all elevations, but acorns produced well only along the upper slopes. Perhaps best to let ol’ Blue start his strikes along the ridges.</p> <p>The best surveys come from Randolph and Tucker counties.</p>

Table 5. (Continued) Hunting prospects in Greenbrier, Pocahontas, Randolph, Tucker, and Webster counties for the West Virginia 2008 Hunting seasons.

<b>Game Species</b>	<b>2008 Outlook</b>
Deer	<p>Although whitetail numbers are similar or slightly higher than 2007, better archery, buck, and antlerless harvests are forecast. Archers should note apple trees are loaded—just locate the trees and apples the deer prefer. Also, be aware that white oaks along field edges produced better than oaks elsewhere. Gun hunters will be more successful along bottoms and fields at lower elevations; at higher elevations, hunting ridges occupied by red and black oaks should pay off.</p> <p>Best reports are from Randolph and Tucker counties.</p>
Turkey	<p>Early June rains severely impacted the normal turkey hatch—but renesting hens and dry conditions in late July and August caused brood counts to be down only 8% in the region compared to last year. Flocks should be feeding in cherry and beech stands at all elevations, and concentrating on ridges when hitting acorns. The fall kill should be lower than 2007, but the spring 2009 kill will be higher.</p> <p>Pocahontas County has the best reports.</p>
Bear	<p>The only factor that could curtail record bear harvests in the Mountains area will be weather—the onset of severe cold and deep snows will cause bears to den early. However, under normal winter conditions, gun harvests should be up (an additional September week has been added) because abundant beech, cherry, and hickory production should keep bears from denning early. Abundant apple and other fruit crops could hamper bowhunting success. Diligent scouting efforts to locate early sign of feeding forays are a must.</p> <p>All counties but Pocahontas have “best” surveys.</p>

## ECOLOGICAL REGIONS 3 AND 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.

<b>Game Species</b>	<b>2008 Outlook</b>
Gray and Fox Squirrels	Better hunting is forecast for most counties in the southern regions. Beech, walnut, and hickory production is up from the 38-year average. Fall litters will add up to make 2008 an excellent year for squirrel hunters.
Rabbits	Early reports of high bunny numbers are optimistic for the upcoming season; however, drought conditions have reduced the amount of available cover which will in turn reduce numbers. Surveyors still predict better hunting than we had in 2007, when it was drier with even less cover.
Ruffed Grouse	The good news is there is plenty of soft mast for 2008. The bad news is an abundance of spring rains have reduced brood reports drastically. As an equalizer, cooperators predict similar hunting conditions for this season. Let's hope we just missed broods in the lush vegetation.
Raccoon	Field personnel are predicting similar to better hunting in 2008. Good mast conditions will have 'coons scattered, but strikes should be often.  Best reports come from Kanawha, Logan, and Mercer.
Deer	Cooperators are predicting similar to better hunting conditions than last year. Conservative management strategies in several counties in the region have allowed the herd to grow in numbers. Archers will find success in the white oaks where production of acorns is good. Hunters are reminded to review the '08-'09 Hunting and Trapping Regulations for details on seasons in specific counties.

Table 6. (Continued) 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.

<b>Game Species</b>	<b>2008 Outlook</b>
Turkey	Brood reports are down 26% in this region but field personnel are still calling for a better harvest than for 2007. White oak, chestnut oak, beech, and soft mast are plentiful and widespread, so birds could be difficult to locate. Mason, Summers, Monroe, and Nicholas are open for fall hunting. Check the 2008-2009 Hunting and Trapping Regulations for opening and closing dates.
Black Bear	Bears continue to increase in numbers and expand their range resulting in more liberal hunting seasons in many areas of this region. Good hard and soft mast conditions will likely reduce archery harvests but will keep bruins out of dens longer in December.  Logan and Wyoming counties are noted as must hunts in the late gun season.
Wild Boar	The hog harvest will again remain low. Good oak and hickory mast will scatter available pigs throughout this already difficult to hunt terrain. Look for a modest increase in the total harvest as boars reported in new areas of Boone County bolster the population.

## ECOLOGICAL REGION 4

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

<b>Game Species</b>	<b>2008 Outlook</b>
Gray and Fox Squirrels	<p>Good mast last year means good squirrel numbers this year. Walnut and hickory will dominate the squirrel's diets this year as their production is well above the 38-year average.</p> <p>Best reports come from Braxton and Upshur counties.</p>
Rabbits	<p>Cottontails are reported to be in good numbers and should remain that way. Adequate rainfall has produced some late summer cover that will aid in maintaining good bunny numbers.</p> <p>Braxton and Preston counties are producing the best reports.</p>
Ruffed Grouse	<p>Grouse populations are considered to be similar to last year in this range. Finding a food source will be important to a successful hunt. Grape and cherry production is down but hawthorn and dogwood production is up above the 38-year average, with very little differences between higher and lower elevations.</p>
Raccoon	<p>The 2008 outlook for ringtails is similar to that of last year. 2007 was a good year so Ol' Blue won't be disappointed. Good hard and soft mast throughout this region will have the masked bandit evenly distributed in this region.</p>

Table 7. (Continued) Hunting prospects in Barbour, Braxton, Harrison, Lewis, Marion, Monongalia, Preston, Taylor, and Upshur counties.

<b>Game Species</b>	<b>2008 Outlook</b>
Deer	<p>The deer harvest is predicted to be higher in 2008. Liberal harvest strategies for most counties in this region combined with average acorn production sets the table for an increased harvest above that in 2007.</p> <p>Details for whitetail hunting can be found in the 2008-2009 Hunting and Trapping Regulations.</p>
Turkey	<p>Brood production is slightly down from last year, but the addition of Harrison and Upshur counties to the fall lineup joining Monongalia and Preston should produce an increase in the turkey harvest. Beechnut production has responded from its failure last year to provide hot spots for busting up flocks.</p>
Black Bear	<p>Bear numbers continue to increase as the bruins expand their range in this region. Hunters should look at the hickory groves as a food staple for the bears to be adding their winter weight. Houndsmen will have an additional opportunity in portions of Braxton and Upshur counties. Look for the bear harvest to increase. Consult the 2008-2009 Hunting and Trapping Regulations for details on opening and closing dates in specified counties.</p>

## ECOLOGICAL REGION 5

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

<b>Game Species</b>	<b>2008 Outlook</b>
Gray and Fox Squirrels	<p>Because of the decline in oak mast this year, bushytails may be easier to find near hickory and walnut trees which appear to be plentiful.</p> <p>Cooperators predict about the same or slightly better outlook for most of the counties in this region.</p>
Rabbits	<p>Cottontail hunters should have a real challenge this year. Cooperators predict bunny numbers to be about the same as last year.</p> <p>Brooke, Hancock, Ritchie, and Wetzel counties receive a better prediction.</p>
Ruffed Grouse	<p>Grouse populations still appear to be struggling. Most cooperators forecast a similar or worse hunting outlook than last year.</p> <p>Best county in this region appears to be Ohio but expect grouse hunting to mirror last year in Brooke, Doddridge, Gilmer, Hancock, Marshall, Pleasants, Ritchie, Roane, Tyler, and Wetzel counties.</p>
Raccoon	<p>Masked bandits have remained about the same in most counties of this region. Cooperators forecast hunting to be similar to last year. The abundance of soft mast and shortage of oak mast make an interesting season. Look for 'coons in the lower elevations.</p>

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

<b>Game Species</b>	<b>2008 Outlook</b>
Deer	The overall deer harvest is predicted to be similar to 2007. Low oak mast production may help bowhunters pattern deer movements. Early scouting may pay great dividends this year. Liberal antlerless seasons remain for many counties. Consult the 2008-2009 Hunting and Trapping Regulations for further details.
Turkey	<p>Although brood production was down slightly (6%) the hunting outlook is similar to last year for this region. With lower oak mast, turkeys may be on the move looking for food sources in the fall.</p> <p>Hancock, Brooke, Marshall, Pleasants, Wood, and Wirt counties will be open to a week long (October 25-November 1) fall season this year.</p>
Black Bear	<p>Bear populations appear to be stable in this region. Available food supplies will have the bruins dispersed, but look for the harvest to be similar to last year.</p> <p>Archery season runs October 18-November 22. This region remains closed to firearms.</p>

## **APPENDIX**



**REPORT OF MAST CONDITIONS  
(SEE OPPOSITE SIDE FOR INSTRUCTIONS)**

H L U

LOCATION: \_\_\_\_\_  
 COUNTY \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 ELEVATION: \_\_\_\_\_  
 ASPECT: \_\_\_\_\_

SPECIES	AVAILABLE MAST, FRUIT, ETC.			
	Abundant	Common	Scarce	Species Not Seen
BEECH				
WALNUTS				
HICKORIES				
WHITE OAK				
CHESTNUT OAK				
BLACK/RED OAK				
SCARLET OAK				
BLACK CHERRY				
GRAPES				
SCRUB OAK				
YELLOW-POPLAR				
HAWTHORNE				
CRABAPPLE				
DOGWOOD				
BLACKBERRY				
GREENBRIER				
SASSAFRAS				
APPLE				
OTHERS (LIST)				

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

NAME OF PERSON REPORTING: \_\_\_\_\_  
 DIVISION: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 \_\_\_\_\_

**LOCATION:** Give the nearest post office address or some other adequate description. Example: Alpena Post Office, or two miles south of Alpena near head of Roaring Creek. Do not give such descriptions as “on the ridge above George Walker’s Store.”

**COUNTY:** Name the county in which the survey was made.

**DATE:** Give the date on which the survey was made.

**ELEVATION:** Give the approximate elevation. Example: 2,500 feet, 2,620 feet, 800 feet, etc.

**AVAILABLE MAST, FRUIT, ETC:**

Please indicate the relative abundance of the mast, fruit, etc. this season by placing an X under the proper column opposite the species concerned. Do not write in any wording such as poor, very poor, not so good, etc. Mark X under column species not seen if you did not see the tree or shrub species, or if it does not occur in the area you conducted the survey.

Please return the forms by September 1 so that compilations can be made immediately thereafter.

Mail completed forms to:

Mast Survey  
Division of Natural Resources  
P.O Box 67  
Elkins, WV 26241

**2008 HUNTING PROSPECTS**

**PLEASE CHECK BELOW WHETHER YOU THINK HUNTING WILL BE THE SAME, BETTER OR POORER THAN 2007 FOR EACH GAME SPECIES LISTED. LIST COUNTY OR COUNTIES YOU ARE RATING. IF YOU DO NOT KNOW, OR THE GAME SPECIES ARE NOT PRESENT IN YOUR WORK AREA, DO NOT CHECK ANYTHING.**

**COUNTY(IES) RATED:** \_\_\_\_\_

<b>GAME SPECIES</b>	<b>(1) BETTER</b>	<b>(2) SAME</b>	<b>(3) POORER</b>
SQUIRRELS			
RABBITS			
GROUSE			
RACCOON			
DEER			
TURKEY			
QUAIL			
BEAR			
OTHERS (LIST)			

**REMARKS:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**NAME OF PERSON REPORTING:** \_\_\_\_\_

**DIVISION:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

## NOTES



**Mast  
Survey**

**Wildlife Resources**  
*West Virginia Division of  
Natural Resources*

State Capitol Complex  
Building 3, Room 812  
Charleston, WV 25305  
(304) 558-3147  
Fax: (304) 558-3147

**Bulletin 08-05**



It is the policy of the Division of Natural Resources to provide its facilities, services, programs, and employment opportunities to all persons without regard to sex, race, age, religion, national origin or ancestry, disability, or other protected group status.

