

2009 WEST VIRGINIA MAST SURVEY AND HUNTING OUTLOOK



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



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2009 West Virginia Mast Survey

Christopher Ryan, Randy Tucker, Eric Richmond, and William Igo

The Division of Natural Resource (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 (290) locations covering all regions of West Virginia were surveyed in 2009. 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 agriculture 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 2008 survey, the mast this year decreased considerably (Table 1). All species except scrub oak declined from last year's estimate. Scrub oak is a species that only occurs in the eastern portion of the State and is usually a reliable producer of mast. The most notable decrease in mast indices were seen in apple (-76%), beech (-66%), hawthorn (-60%), crabapple (-60%), hickories (-59%), and

walnuts (-52%). Several soft mast species did not decline to the extent as hard mast species. Greenbrier, sassafras and yellow poplar decreased less than 25%.

Although all oaks (except scrub oak) decreased, the black/red oak index declined only 14%. These oaks require two years for the fruit to mature so the index may be reflecting last year's germination. Next year, we expect the black/red oak index to decline again to reflect this year's mast failure.

Compared to the 39-year average (Fig. 1), the 2009 mast index for all species combined decreased to an all-time low (40 years). The largest decrease was observed for apple (-65%) and chestnut oak (-62%). Fifteen of the 18 species monitored decreased more than 20% (Table 2).

The statewide index for combined hard mast species (beech, hickory, and oaks) and black cherry was well below the 39-year average (Fig. 2). Black/red oak appeared to be best in Regions 1 and 2. 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, crabapple, greenbrier, grape, and apple) were below the 39-year average. Only yellow poplar was found to be present in higher abundance compared to the 39-year average. These soft mast foods are particularly important because of their use by grouse and turkey.

As a rule, higher elevations statewide appeared to have more mast production than lower elevations. This is particularly true for beech and oak species. Soft mast species were also found more abundant at higher elevations.

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 other 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.

ECOLOGICAL REGION 1 (EASTERN PANHANDLE)

2009 mast conditions in this region are down for all species except for oak and sassafras (Table 3). Black cherry, hickory and walnuts declined substantially from last year's index. Soft mast species are down as well. Hawthorn, crabapple, grape, and blackberry are well below the values observed last year.

Beech, hickory, scarlet oak, and yellow poplar were above the 39-year average (Table 4). Hickory abundance is the best in the state for the second year in a row. Mast in most understory trees and shrubs were less than the 39-year average.

Because hard mast was reasonably good in this region, look for game in areas where acorn crops hit. This will almost certainly affect the movement patterns of game in these stands. With less mast than usual, look for travel corridors established early in the season.

Most species produced about the same at all elevations. Walnut and hickory abundance was better in lower elevations. Some soft mast species (black cherry, hawthorn, yellow poplar, and blackberry) were better at high elevations. Most understory species were about the same at all elevations.

ECOLOGICAL REGION 2 (MOUNTAINS)

Beech and black/red oaks are the big hard mast producers in the Mountains. All other hard mast species were considerably lower than last year. Hickory, walnut, white oak, chestnut oak and scrub oak were below last year's index. Soft mast species also failed to produce to last year's abundance. Apple, crabapple, hawthorn, and black cherry were almost non-existent in this region. Look for good hunting in areas where acorns are abundant.

Only walnut, black/red oak, scarlet oak, yellow poplar, and dogwood produced above the 39-year average. Production of other hard mast species (chestnut oak, hickory, white oak, and scrub oak) was well below the 39-year average. Soft mast like black cherry, apple, hawthorn, crabapple, and greenbrier were also below the long term average.

Almost all species produced better at higher elevations. Shrub and understory trees produced as well if not better than their counterparts in lower elevations. Grape was down 14% from the long term average.

Based on mast conditions, acorns must be a staple for many game species in this region. Mast from walnut, black/red oak, and scarlet oak will help compensate for the decline in soft mast production.

ECOLOGICAL REGION 3 (SOUTHERN)

Compared to last year, mast production in the Southern Region is down considerably for all species except scarlet oak. Substantial declines in mast production was observed for beech, walnut, hickory, white oak, chestnut oak, black/red oak, and scrub oak. Soft mast species failed to produce as well.

Based on the long term average, all species except grape and greenbrier failed to produce at the 39-year level. Hard mast species were well below the long term average. Beech, black/red oaks, and scrub oak mast are in short supply. Most soft mast species were well below the 39-year average. Greenbrier, grape, and dogwood were the only soft mast species that produced above the 39-year average.

Hard mast species produced about the same at all elevations. The largest differences were observed in dogwood, greenbrier, and other species. Walnut, white oak, and black cherry were slightly better at lower elevations, while chestnut and black/red oak were about the same topographically.

ECOLOGICAL REGION 4 (CENTRAL)

Unlike last year that reported over 100% increase in mast production, the reverse is true for this year. Beech, walnut, hickory, and oaks declined substantially from last year's production. Soft mast also suffered from poor production compared to last year. Apple, crabapple, and hawthorn reported significant declines (Table 3). Grape was the only species not to decline from last year.

Compared to the 39-year average, all mast species failed to reach the long term average index. Chestnut oak and scarlet oak were down more than 90% from the long-term average. Overall, the failure of mast species to produce was most pronounced in this region. This failure should be well pronounced by winter's end.

As a rule, mast production was about the same for all elevations. Black/red oak, black cherry, dogwood, and sassafras production was somewhat better in higher elevations.

ECOLOGICAL REGION 5 (WESTERN)

All oak production in this region was well below normal and is considered a failure. The vast majority of the reports for all oak species were marked as "scarce." White oak was 33% lower than last year and 44% below the 39-year index. Chestnut oaks were 66% below the long-term average and down 53% from last year. Black/red and scarlet oaks had an enormous drop from their long-term average, down 79% and 76%, respectively. Hickory production was down 51% from last year and 18% from its 39-year index. Our observers noticed a 73% reduction in beechnuts and production

was down 51% from the long-term average. Similar to other hard mast species, walnut was down 66% from 2008 and 40% below its historical index. Black cherry did show an increase of 24% from last year but was still 14% below its long term average.

Understory trees and shrubs mast production was just as dismal as the hard mast outlook in this region. Every soft mast shrub and understory species was lower in 2009 than 2008 and most were considerably lower than the 39-year index.

Mast production was slightly better at higher elevations but would still be considered a failure. Some hard mast species recorded their lowest indices in the history of the 40 year study at respective elevations. It is safe to say that this is the worst mast production year in the 40-year survey.

ECOLOGICAL REGION 6 (SOUTHWESTERN)

The Southwestern region mirrors the Central, Western, and Southern regions in much poorer production of beech, walnut, hickory, and the majority of oaks. All these species are down more than 50% (except walnut, “only” down 46%) than 2008 indices: beech (-77%), hickory (-66%), white oak (-68%), chestnut oak (-76%), black/red oak (-68%), and scarlet oak (-72%). Declines in production from the long-term average for these species are also significant. Squirrels will have a difficult time overwintering and will bring off fewer young and litters for 2010. This means low bushytail populations for the fall-winter 2010 seasons.

Black cherry was actually up 16% from last year, and increased 24% over the 39-year average. Though understory mast and shrubs were down from 2008 (hawthorn, -32%; crabapple, -31%; dogwood, -16%; greenbrier, -11%; grape, -13%), they were still higher than the 39-year average (hawthorn, +42%, crabapple, +18%, dogwood, +26%; greenbrier, +15%; grape +24%).

Most trees appeared to produce consistently over elevation changes, with the exception of hickory (“hit” better at higher elevations) and white oaks (best around bottoms). Blackberries and crabapples produced better low, while greenbrier berries were more abundant near ridges.

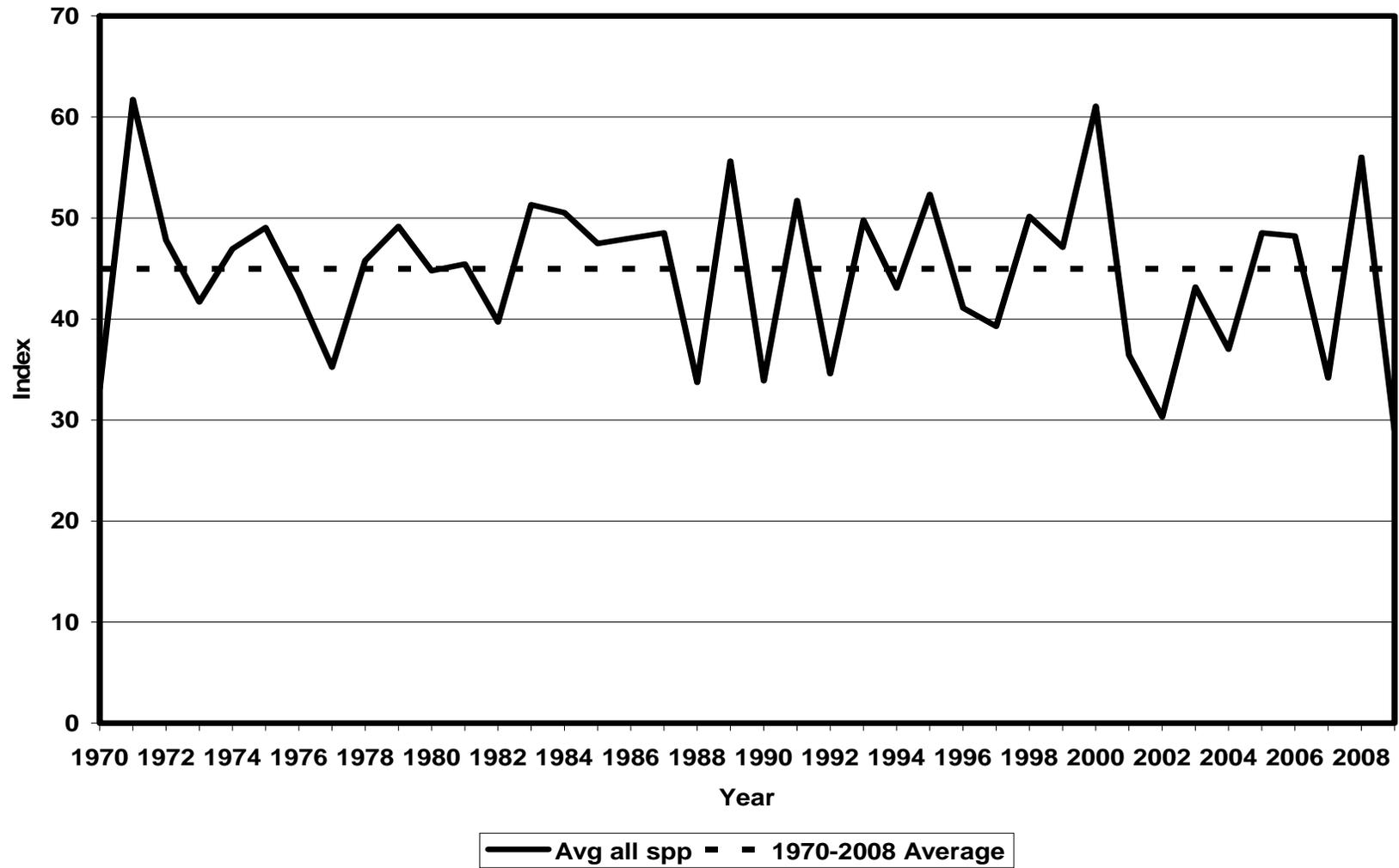


Figure 1. Indices of all mast species combined, 1970-2009.

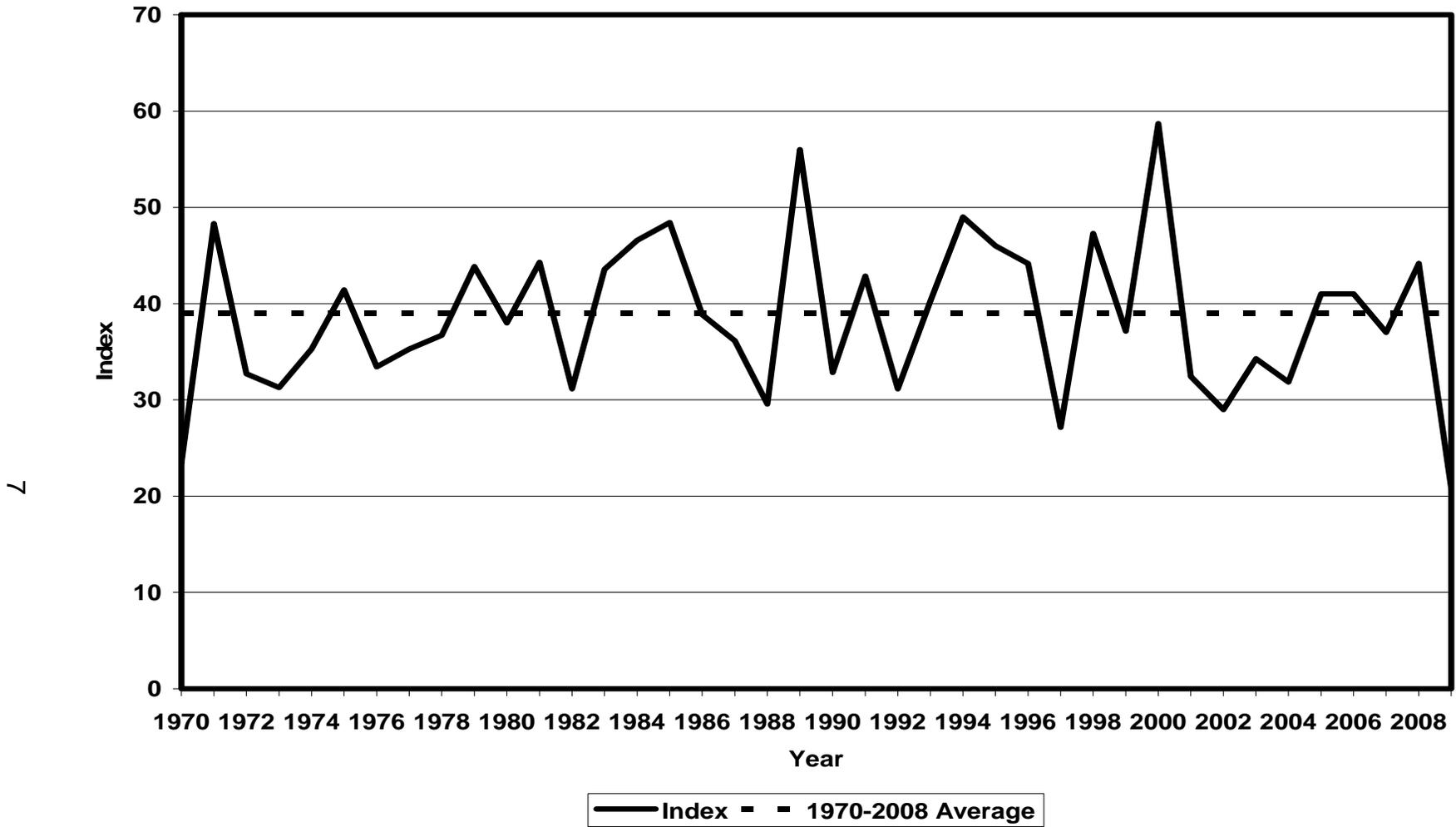


Figure 2. Indices of beech, hickory, oaks, and black cherry, 1970-2009.

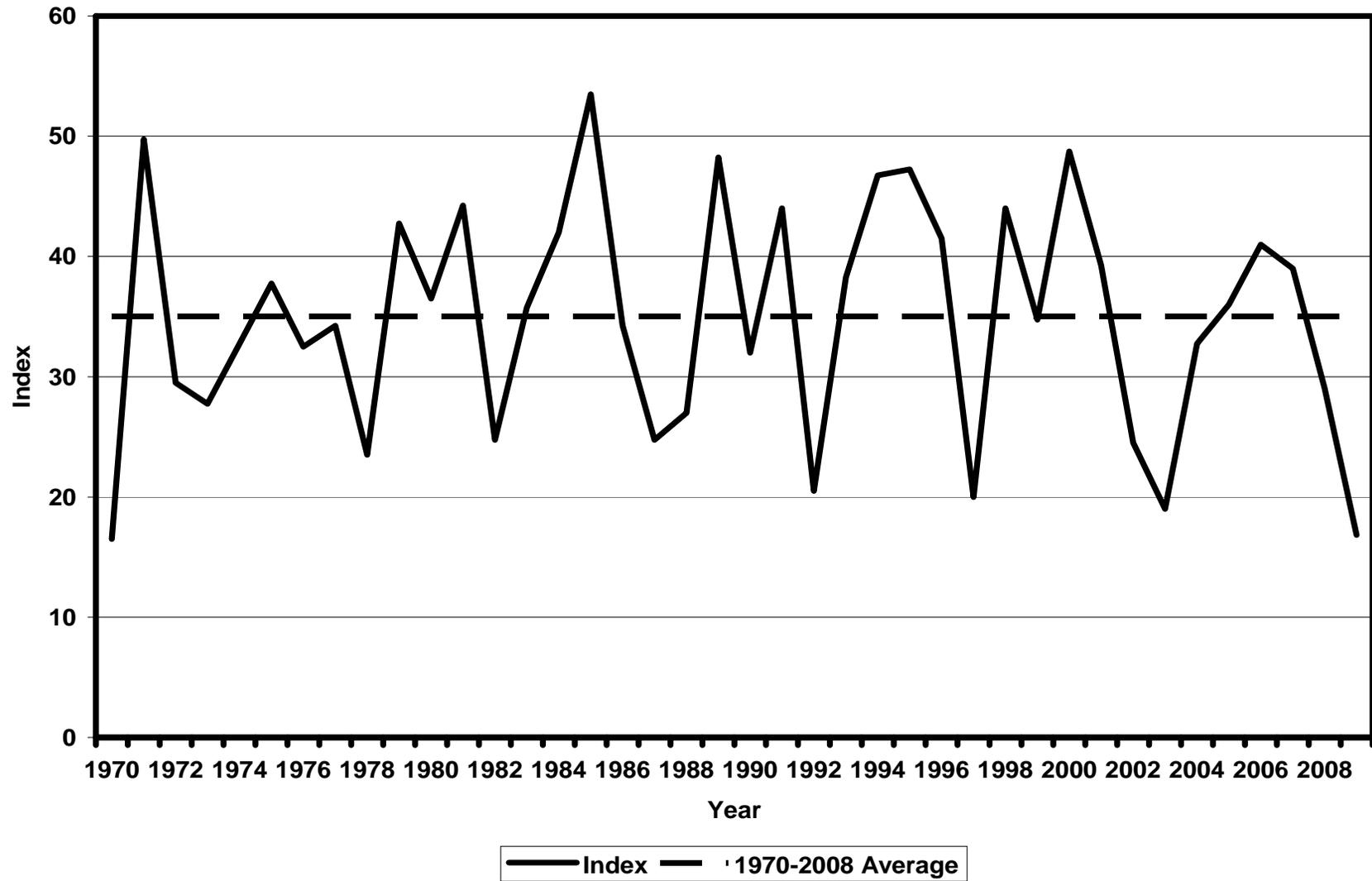


Figure 3. Index of oaks, 1970-2009.

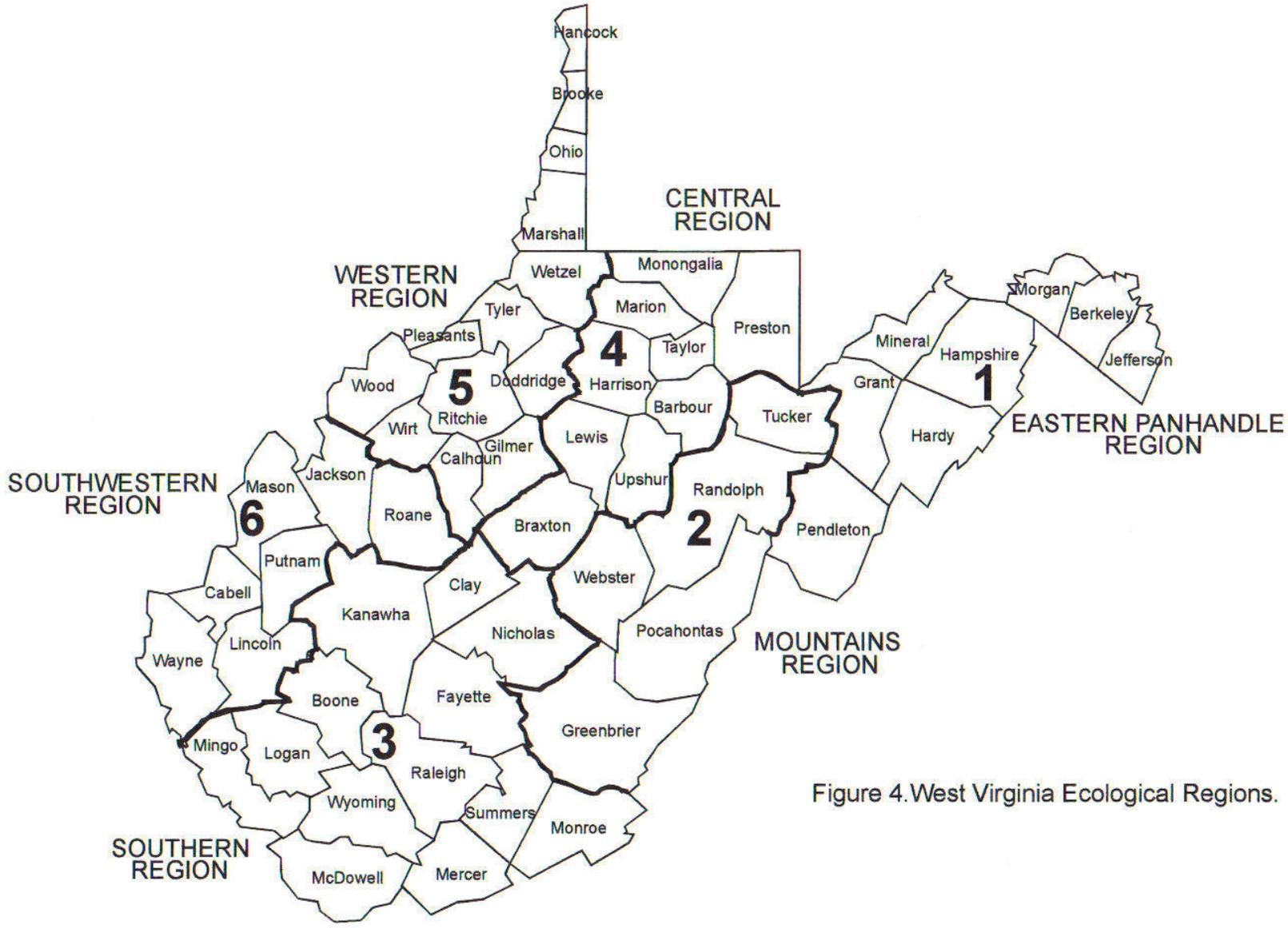


Figure 4. West Virginia Ecological Regions.

Table 1. 2009 statewide index compared to 2008 mast index.

Species	2008	2009	Percent Difference
Beech	62	21	-66
Walnut	70	29	-59
Hickory	77	37	-52
White Oak	34	19	-43
Chestnut Oak	32	12	-63
Black/red Oak	29	25	-14
Scarlet Oak	21	22	4
Black Cherry	54	32	-40
Grape	46	35	-24
Scrub Oak	45	30	-33
Yellow Poplar	61	47	-24
Hawthorn	81	32	-60
Crabapple	82	33	-60
Dogwood	67	48	-28
Blackberry	73	44	-39
Greenbrier	41	36	-13
Sassafras	29	25	-14
Apple	82	19	-76
Other	78	52	-34

Table 2. 2009 statewide index compared to 39-year average mast index.

Species	Avg Index	2009	Percent Difference
Beech	38	21	-46
Walnut	37	29	-23
Hickory	47	37	-22
White Oak	37	19	-48
Chestnut Oak	32	12	-64
Black/red Oak	42	25	-42
Scarlet Oak	33	22	-32
Black Cherry	46	32	-30
Grape	41	35	-14
Scrub Oak	36	30	-18
Yellow Poplar	47	47	-2
Hawthorn	48	32	-33
Crabapple	54	33	-39
Dogwood	48	48	1
Blackberry	51	44	-14
Greenbrier	41	36	-12
Sassafras	37	25	-33
Apple	58	19	-66
Other	69	52	-24

Table 3. Percent difference in mast index by species between 2008 and 2009 by ecological region.

Species	Ecological Region					
	1	2	3	4	5	6
Beech	-8	10	-82	-75	-73	-77
Walnut	-51	-29	-65	-70	-66	-46
Hickory	-32	-50	-65	-56	-51	-66
White Oak	165	-24	-51	-73	-33	-68
Chestnut Oak	6	-60	-59	-93	-53	-76
Black/red Oak	35	113	-46	-42	-61	-68
Scarlet Oak	68	64	38	-92	-40	-72
Black Cherry	-81	-88	-35	-2	24	16
Grape	-62	-23	-13	1	-7	-13
Scrub Oak	5	-50	-78	-100	-50	N/A
Yellow Poplar	-14	-12	-34	-23	-10	-40
Hawthorn	-84	-72	-55	-52	-55	-32
Crabapple	-50	-69	-51	-71	-66	-31
Dogwood	-33	-11	-17	-36	-41	-16
Blackberry	-43	-37	-44	-37	-33	-25
Greenbrier	40	-31	-20	-2	22	-11
Sassafras	8	21	-21	-14	-5	-24
Apple	-76	-96	-56	-85	-71	-55
Other	-56	-32	-23	-13	-50	-11

Table 4. Percent Change in 2009 mast index by species from average of years (1970-2009) by ecological region.

Species	Ecological Region					
	1	2	3	4	5	6
Beech	77	-21	-67	-70	-50	-50
Walnut	-7	29	-35	-49	-38	11
Hickory	32	-24	-44	-36	-16	-43
White Oak	-7	-64	-47	-71	-42	-52
Chestnut Oak	-43	-86	-38	-92	-65	-69
Black/red Oak	-4	12	-53	-67	-79	-74
Scarlet Oak	20	19	-11	-95	-77	-74
Black Cherry	-70	-78	-13	-25	-16	24
Grape	-50	-12	0	-9	-19	23
Scrub Oak	-1	-32	-70	-100	14	N/A
Yellow Poplar	20	15	-15	-13	1	3
Hawthorn	-64	-60	-12	-30	-22	39
Crabapple	-14	-56	-21	-62	-47	19
Dogwood	0	9	17	-24	-8	25
Blackberry	-19	-14	-21	-20	-2	13
Greenbrier	-18	-32	5	-23	-13	16
Sassafras	-38	-54	-7	-45	-42	-23
Apple	-66	-94	-35	-78	-61	-30
Other	-42	-32	-6	-23	-37	2

2009 West Virginia Hunting Outlook

Christopher Ryan, 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 deer archery season and early deer muzzleloader season; deleting 11 counties from an early September bear firearms season) could have positive impacts on deer harvests and should result in a lower bear gun kill.

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 chart of predicted statewide harvests of major game species for 2009. Harvests of most game species are expected to be similar or better than the good harvests of 2008. 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 help 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

Last year, oaks produced a lower than normal acorn crop. However, abundant hickory and walnut production should have provided for good overwinter survival and good bushytail litters. Since the previous year's food supplies are a major factor in the number of squirrels for the upcoming season, populations this year should be similar to that of 2008. Poor hard mast production in 2009 will result in lower squirrel numbers for 2010.

Based on very spotty acorn production and a hickory crop that is only "common", bushytails in most areas will be concentrated; many prognosticators are **forecasting better hunting for the 2009-2010 season, particularly in the Mountains, Southern,**

and Southwestern regions. Similar hunting conditions are expected in the Eastern Panhandle, Central, and Western regions.

Squirrels in many locales will have hickory “cut out” by season opening; those hunters still finding hickory trees with nuts should have no problem filling their limit. After hickory nuts are consumed, squirrels will be moving into the oaks. In some regions, white oak appears to have produced well in the open areas, such as along roads and field edges. Some Mountains region observers noted that red and black oaks produced better on the higher ridges, whereas scarlet oak acorns were seen at all elevations. Where food supplies are overwhelmed by squirrel numbers, squirrels will be moving helter skelter; they might appear anywhere!

Cottontail Rabbits

Most cooperators are predicting **similar to better bunny hunting than last year**. Abundant rainfall throughout the spring and summer months has provided lush cover and lots of rabbits in the Mountains regions, with good reports coming from the Eastern Panhandle, Southern, and Southwestern regions. Similar hunting is forecast in the Central and Western regions...but, remember, last year was a pretty good year for beagles and their masters!

Raccoons

This year’s forecast should be **similar** to the hunting in 2008. Poor mast conditions on a statewide basis could present challenging hunting conditions but ‘coon numbers remain strong in many areas. At this time the unknown primary factor that could influence hunting conditions would be the presence/absence of diseases on local populations.

Deer

The majority of surveyors predict better deer hunting for 2009. All regions are forecast to have increased archery harvests—many whitetails should be utilizing openings and field edges where white oaks have produced. Moderate liberalization of the antlerless season involving increasing the bag limit in many counties should result in a slightly higher antlerless take. Weather conditions during the first few days of buck season will determine if the slightly higher buck kill forecast will come to fruition. All regions are forecasting higher muzzleloader harvests — more opportunity will be provided this year with an additional one week early September muzzleloader season (September 21 – September 26). Deer should also be more accessible in field areas. Because of necessary changes in deer regulations (to better manage our whitetail herds), hunters should refer to the 2009-2010 Hunting and Trapping Regulations Summary for detailed information in counties they expect to hunt.

Black Bear

Predictions for the black bear harvest have been very accurate in the past because of the close correlation between mast conditions and harvest and the consistent hunting season structure. In 2008, the DNR held the first early bear gun season in the traditional mountain counties in twenty years. Age data from the harvest should be available soon. At this time, it is impossible for biologists to correctly assess the entire nature of the harvest and the impact of the early season on the population growth rate. There are numerous factors which will influence the 2009 harvest in addition to mast conditions. Because age structure data was not available when hunting regulation proposals were due, more conservative hunting seasons were proposed and passed by the DNR commission. For 2009, we predict a **slightly higher archery harvest** due to dismal oak mast conditions. The overall 2009 gun harvest should be **drastically reduced** from the record 1,590 because bears will enter their winter dens earlier and there isn't an early season in the traditional mountain counties. Overall, the black bear harvest should be **much lower** than the record harvest of 2,069 bruins in 2008.

Wild Turkey

Early brood counts mirrored records from last year but July reports were the second highest recorded in 5 years. Renesting hens probably contributed to this jump; however, on the down side, the number of poults with hens is down almost 25%. Brood reports are similar to last year in the Eastern Panhandle, while counts are up almost 50% in the Mountains region.

With spotty acorn production, birds will tend to be more concentrated. Some flocks will be feeding in field areas longer than normal, making them more accessible to hunters. Birds will eventually move to red and scarlet oak acorns. With slightly higher overall numbers and concentrated flocks, the **fall harvest is expected to be higher than last year**. Cooperators forecast a similar kill in the Eastern Panhandle, and a higher harvest in the Mountains region.

Fourteen traditional fall-hunt counties will be open to a 4-week season October 24 through November 21, 2009. Preston County will have 2-week season from October 24 to November 7. Nine counties (Brooke, Hancock, Harrison, Marshall, Mason, Ohio, Upshur, Wirt, and Wood) will be open October 24 through October 31. Specific turkey regulations are contained in the 2009-2010 Hunting and Trapping Regulations Summary.

Ruffed Grouse

All that rainfall this spring apparently had no effect on ruffie broods. Brood counts through July were up considerably (64%) from 2008. Though some may be surprised with the rain-brood success situation, it should be pointed out that rainfall was

predominately intermittent daily showers, not the prolonged multi-day drenchers that cause chick deaths. Chicks had the opportunity to feed and bask in the sunlight during significant portions of most rainy days. The vast majority of broods are reported from the Mountains region, but this year the Southern region has shown an increase. With soft mast production poor and spotty, birds should be concentrated. **Therefore, better hunting is predicted by cooperators in the Mountains and Southern regions;** observers in all **other regions expect similar hunting.** Hunters should be alert for birds around dogwoods early in the season and seek out grape clumps later in the year.

Wild Boar

Since the wild boar season was adjusted in 2003 (eliminating the December gun season), boar harvests have been low. The harvest of hogs in a portion of Boone County outside of its traditional range has provided a new optimism for the pig population. The bulk of the harvest 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. Scattered mast conditions will have pigs on the move for available food sources creating a scenario where both the archery and gun harvests will be similar to last year.

Table 1. 2009 quick check chart of predicted statewide wildlife harvests.

Species	More	Similar	Lower
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. 2009 quick check chart of deer harvest forecast by region and season.

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

Table 3. 2009 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	2009 Outlook
Gray and Fox Squirrel	<p>This region should have similar squirrel hunting in 2009. Acorn production was down in 2008 but the good hickory and walnut production should still allow for good overwinter survival. The lower than normal white and chestnut oak production may cause squirrels to make larger than normal movements in search of food. Black and red oak production was higher than the white oak family and hunters may find more bushytails in these species. Hickory was the most abundant mast species in this region and good hickory coves may hold more squirrels than normal.</p> <p>Scrub oak was also common in this region and may supply squirrels with additional food sources where these species occur on the landscape.</p>
Rabbits	<p>Rabbit numbers should be up in region 1 because of the large amount of precipitation in 2009. All reports stated that hunting should be better or the same in 2009 and hunters should be enthusiastic to find a good bunny population for their beagles to chase.</p>
Ruffed Grouse	<p>Brood reports are running slightly up this year and reports are predicting similar hunting in 2009. Soft mast conditions were also down in this region but beech production was fairly common. In addition, this is the only region that supplied decent red and black oak production so hunters may find a few ruffs in areas with oak production.</p>
Raccoon	<p>Raccoon hunting should be similar in 2009. White oak production was a little better in lower elevations than higher elevations and red and black acorns were consistent across the elevations.</p>

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

Game Species	2009 Outlook
Deer	<p>Like last season, most surveyors are predicting better deer hunting this year than last year. Although not as pronounced as other regions, the decreased mast supply should lead to higher harvests, especially archery. Hunters in this region should spend a considerable amount of scouting because the spotty conditions may make deer more concentrated around specific food sources.</p> <p>Every county in this region is also open for the special antlerless and muzzleloader seasons in September. It will be interesting to see how many animals are harvested during these seasons and if they are additive or compensatory to the overall harvest trends.</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 within the Containment Area (page 11 of the 2009-2010 Hunting and Trapping Regulations Summary).</p>
Turkey	<p>Fall turkey hunting should be similar to last year except the lack of mast may slightly increase the harvest. Fall turkey harvests are influenced by brood production and mast conditions. Early brood reports show similar numbers to last year and the overall reduction in mast conditions may increase the concentration of turkeys in certain areas.</p>
Black Bear	<p>Black bear hunting should vary across the region. Three counties in the region had the early season in 2008 and the overall harvest in these counties should be down. Although the remaining counties do not typically produce a large bear harvest, the increasing population in these counties and lack of mast conditions may supply archery hunters with above average chances to harvest a bruin.</p> <p>For the first time ever, there will be a special limited hunting opportunity for hunters using hounds on Nathaniel Mountain WMA. Hunters wishing to participate in the hunt must submit an application prior to October 31, 2009. Hunters may see page 38 of the 2009-2010 Hunting and Trapping Regulations Summary or visit the website at www.wvdnr.gov under hunting.</p>

ECOLOGICAL REGION 2

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

Game Species	2009 Outlook
Gray and Fox Squirrel	<p>Hickory is reported as “common” at all elevations. Squirrels were observed cutting hickory as early as mid August...many locales will be depleted of nuts by season opening. Hunters finding hickory trees still being worked by bushytails may obtain a limit in only one or two trees! Hunters take note: white oak and walnut produced consistently only in open areas, such as agricultural fields. Red oak only “hit” at very high elevations and scarlet oak produced sporadically at all elevations. Beech is a bust.</p> <p>Best reports are from Greenbrier and Randolph counties.</p>
Rabbits	<p>Constant spring and summer rains have resulted in a lot of lush cover and a lot of bunnies. Like the last several years, good hunting is expected.</p>
Ruffed Grouse	<p>The Mountains region traditionally has the most brood reports in the state and this year is no exception. Counts are currently up over 50% from last year. With white oak and beech crops scarce, birds will be concentrated under dogwoods and thornapple thickets. Hunters should note that grape hit very spotty – some arbors were found abundant at both low and high elevations. Finding these productive clumps should pay off with a “mountain pheasant” under covered dish dinner!</p>
Raccoon	<p>Some areas, particularly Greenbrier county, are experiencing a rabies outbreak that is lowering local ‘coon populations. Otherwise, numbers appear to be stable from last year. Look for masked bandits on the very high ridges where red oak acorns exist, and watch for activity in any areas where scarlet oak is present.</p>

Table 5. (Continued) Hunting prospects in Greenbrier, Pocahontas, Randolph, Tucker, and Webster counties.

Game Species	2009 Outlook
Deer	<p>Whitetail numbers are slightly higher and forecasters are predicting better archery, buck, and antlerless harvests. Deer will be concentrated in red oaks on high ridges, white oaks around fields and meadows, and scarlet oaks on poorer sites at all elevations. As the apple crop is a bust in most areas, bowhunters should scout for producing white oaks around field edges. Some cooperators observed heavy apple crops in some lowland areas - - finding these sites early in the season will greatly enhance the opportunity for venison in the freezer.</p> <p>Best reports are from Greenbrier and Pocahontas counties.</p>
Turkey	<p>Current brood counts are up almost 50%. Flocks may be feeding for insects in and around fields later than usual! Also, turkeys should be feeding on acorns from field-edge white oaks. On the other extreme, the higher ridges produced red oak and scarlet oak acorns, dogwood berries, and thornapples. As for deer, squirrel, and other game animals, look out for scarlet oaks that seem to have "hit" regardless of elevation. The fall kill for 2009 should be higher than last season.</p>
Bear	<p>Most hickory nuts will be consumed by squirrels and their relatives by mid-October. With the paucity of acorns, beechnuts, and cherry, bear will probably hibernate early in this region. Archers should scout to find producing white oaks near field edges, and look for apple trees with extremely abundant fruit that some observers found in isolated areas. Gun hunters may be challenged because of early denning, but some bears may stay out longer in high ridge locales where red oak produced well, or by locally feeding under producing scarlet oaks.</p>

ECOLOGICAL REGIONS 3 and 6

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

Game Species	2009 Outlook
Gray and Fox Squirrels	Better hunting is projected for these regions. Good mast production last year enabled squirrels to winter well and produce several litters for the upcoming season. Hard mast is not as common this year, so some pre-season scouting to find available food sources will be time well spent. Where you find food, the squirrels will be plentiful.
Rabbits	Early reports of good rabbit numbers should be true. In a year of plentiful rainfall, good cover will be provided for huntable bunnies. Good reports come from all counties in these regions.
Grouse	An increase in brood reports brings high hopes of a better season than last year. Soft mast producers fared well this year with dogwood being at the top of the list. Flush rates should be higher, but can we hit them once we get them up?
Raccoon	Field personnel are predicting slightly better hunting than last year. Soft mast is plentiful, but hard mast is spotty creating a scenario of coon numbers scattered throughout the forest. Best reports come from Logan, Mingo, and Fayette counties.
Deer	Cooperators are predicting better hunting conditions than last year. Conservative harvest strategies in several counties in these regions have allowed the herd to grow in numbers. Finding a pocket of white oak acorns will prove to be the best scouting an archer can do to help be successful. Hunters are reminded to review the '09-'10 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, Mercer, Mingo, Monroe, McDowell, Nicholas, Putnam, Raleigh, Roane, Summers, Wayne, and Wyoming counties.

Game Species	2009 Outlook
Turkey	Mason, Monroe, and Nicholas counties are again open for a fall season. With beech nut production down considerably, hunters should seek out the abundant black cherry. Early brood reports are down and hard mast is low; however, cooperators predict similar hunting prospects for this year.
Bear	Cooperators predict a slightly better hunting forecast for the upcoming year. Archers will benefit from poor hard mast production, but bruins may go to their dens by the time the December gun season arrives. Gun hunters are advised to take advantage of the September season in Boone, Fayette, Kanawha, and Raleigh counties.
Boar	The hog harvest will again remain low. Spotty mast conditions will have available pigs on the move in search of food. Look for a modest increase in the total harvest as boars have been reported in new areas of Boone County. This may bolster the population.

ECOLOGICAL REGION 4

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

Game Species	2009 Outlook
Gray and Fox Squirrels	Cooperators predict squirrel numbers to be similar to slightly better than that of last year. Squirrel numbers were good last year, so be ready for outstanding hunting this year. Good hickory and walnut production carried squirrels through the winter and appear to be the best producers of hard mast again.
Rabbit	Cottontails are reported to be at similar numbers to last year and should remain that way. Adequate rainfall has produced some late summer cover that will aid in maintaining good bunny numbers. Best report comes from Lewis County.
Grouse	The grouse population is considered similar to last year. Flushes will be few and far between as we had another poor brood year. Cherry, hawthorn, and dogwood produced the best soft mast with slightly better production at higher elevations.
Raccoon	The 2009 outlook is similar to last year. 2008 was a good year, so Ol' Blue won't be disappointed. Adequate soft mast and poor oak mast should make for an interesting season. Look to get more strikes at higher elevations.

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

Game Species	2009 Outlook
Deer	The deer harvest is predicted to be higher in 2009. The opportunity to hunt in the September seasons for most of this region should drive the harvest numbers. Below average acorn production and liberal harvest strategies sets the table for an increased number of deer to be taken.
Turkey	Monongalia county failed to qualify for a fall season this year and brood production is down. Look for the turkey harvests to be reduced. Beech nut production is poor, so look for bustin' up flocks in the black cherry.
Bear	Bear numbers continue to increase as the bruins expand their range in this region. Poor mast production combined with the roaming nature of the bear should provide archers with increased opportunities. Consult the '09-'10 Hunting and Trapping Regulations for details on opening and closing dates in specified 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	2009 Outlook
Gray and Fox squirrel	<p>As one cooperator reported, “hickory hit all over.” The bad news – most may be gone by opening day. The key to filling the bag will be to locate the hickories that squirrels have just found. In most areas there are very few beechnuts and acorns. However, it seems the further one goes from the Ohio River to the east, the better acorn production occurs at higher elevations. Observers from most counties are forecasting similar hunting to last year.</p> <p>Doddridge, Pleasants, and Ritchie counties have the best surveys.</p>
Rabbits	<p>As last year, bunny numbers and hunting are expected to be similar to the previous year.</p> <p>Only the Northern Panhandle counties of Brooke and Ohio had “best” surveys.</p>
Ruffed Grouse	<p>Almost all reports are forecasting similar hunting as last season. Grouse numbers continue to remain low in this region due to the shortage of young high stem density forests.</p>
Raccoon	<p>Populations remain stable in this region, and surveyors are expecting similar hunting. ‘Coons may be working ridges more than bottoms because of more acorns and other foods at higher elevations.</p> <p>Doddridge and Pleasants counties had best reports.</p>

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

Game Species	2009 Outlook
Deer	<p>Cooperators are predicting similar to better hunting in this region. Archers may wish to scout fields and look for trails coming from woodlands. Deer may still be frequenting open areas during the firearms season. Hunting near ridges where there are some acorns may pay off.</p> <p>Most counties had promising reports.</p>
Turkey	<p>Brood production through July is up more than 25% with better hunting forecast for this region. This is another year with poor oak mast in this area. Turkeys should be on the move looking for food sources. Watch for birds feeding in field areas. Turkeys will also be working ridges in some counties that had acorn production.</p> <p>Brooke, Hancock, Marshall, Ohio, Wirt, and Wood counties will be open for a week long (October 24-October 31) fall season this year.</p>
Bear	<p>Reports of bears are starting to increase in this region. Food supplies should have bruins dispersed, but proper scouting for acorns and apple crops should pay off for archers.</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

2009 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: _____

GAME SPECIES	(1) BETTER	(2) SAME	(3) POORER
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) 558-2771
Fax: (304) 558-3147

Bulletin 09-04



Your purchase of
Hunting equipment
Supports
Wildlife Restoration

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