2020 WEST VIRGINIA MAST SURVEY AND HUNTING OUTLOOK

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Wildlife Resources Bulletin Number 20-4

WEST VIRGINIA DIVISION
OF NATURAL RESOURCES
WILDLIFE RESOURCES SECTION

2020 West Virginia Mast Survey

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The Division of Natural Resources (DNR), in conjunction with the Division of Forestry, annually surveys the state to determine relative abundance of soft and hard mast produced by trees and shrubs of importance to wildlife populations. Information on the quantity of wildlife food is provided to our cooperators, hunters, and various media outlets.

Mast surveys were completed at 249 locations covering all regions of West Virginia in 2020. Professionals and volunteers -- including wildlife managers, foresters, wildlife biologists, Natural Resources Police Officers, Natural Resources Commissioners, and retired personnel from a multitude of natural resources related disciplines -- devoted their time and effort to collect data for this survey. Without the participation of these individuals, completion of the statewide mast survey would not be possible. We would like to extend our sincerest gratitude to everyone who assisted with data collection in this year's survey.

The mast survey is a relative estimation of mast produced by 18 different tree and shrub species that are widespread and locally common throughout the state and are of nutritional value to wildlife. A sample of the survey form is appended at the end of the report. Cooperators are assigned counties and areas familiar to them to collect mast production information, and the same areas are generally surveyed each year to ensure consistency in the survey across years. Mast crop production is subjectively evaluated as abundant, common, or scarce for each species encountered by the observer in the surveyed area. The surveyor also documents species that are not encountered, along with additional mast-producing species of local importance (e.g., Pawpaw, Persimmon, Cucumber-tree, Blueberry, Huckleberry, etc.) that do not appear on the statewide survey form. The mast index is calculated for each species, and in some cases guilds of species (e.g., hard mast producers, all oaks, oak-cherry-hickory, etc.), via the following formula:

Mast Index = [(Abundant Observations/Total Observations) + ((Common Observations X 0.5)/Total Observations)] X 100

The mast index is calculated by species for each ecological region and elevation (high or low, relative to the local terrain of the surveyed county). The current year's index is compared to the previous year's index and the running long-term average spanning the life of the survey, which was first conducted in 1971. Readers unfamiliar with West Virginia ecoregions should refer to Figure 1 to determine the region(s) in which they hunt.

Many wildlife species are highly dependent upon mast crops produced by trees and shrubs, and dynamic factors -- including survival and reproduction or fecundity -- are affected by mast availability. Caloric value available in mast is much more important to the survival of many wildlife species than the caloric value in agricultural crops, herbaceous plants, and supplemental feed. Seeds and fruits from trees and shrubs are necessary not only for overwinter survival, but also for ensuring animals are in good physical condition for reproduction in following months. Generally, animals that enter the winter months with abundant fat reserves will be more likely to survive the lean months of the year and will produce and successfully rear more offspring during the subsequent spring and summer months. Wildlife biologists and managers are able to predict hunting prospects and forecast population dynamics of black bears, squirrels, white-tailed deer, wild boars, wild turkeys, and other game species by using mast quantity and quality information gathered during the annual mast survey.

Compared to the 2019 survey year (Table 1), the statewide combined index for all monitored species was down approximately 37% for survey year 2020. While the crop of Scarlet Oak acorns increased substantially over 2019 levels (+33%) and the Red Oak/Black Oak crop was roughly comparable (-4%) between years, abundance of mast produced by all other species declined by a considerable margin. Among hard mast producing species, Beech (-50%), Walnut (-51%), and Hickory (-54%) performed most poorly, while White Oak (-12%), Chestnut Oak (-17%) and Scrub Oak (-18%) abundance also declined statewide relative to last year's crop. Relative to the 49-year long-term survey average, only Red Oak/Black Oak (+27%) and Scarlet Oak (+56%) exceeded mean production levels. All other hard mast producers performed between 15% (Scrub Oak) and a remarkable 57% (Chestnut Oak) below average. Production among all oak species in 2020 was within 1% of 2019 levels but was nearly 9% below the long-term average; large gains in Red Oak/ Black Oak and Scarlet Oak production were not entirely sufficient to offset noteworthy decreases in relative production by White Oaks (-54%) and Chestnut Oaks (-57%). Scrub Oaks, a usually consistent and reliable acorn producer as compared to the remainder of genus *Quercus*, produced at levels 18% less than those of 2019 and 15% below the 49-year survey average. While statewide acorn production on the whole was not exceptional, the bigger ecological picture in 2020 for those wildlife species that rely heavily upon acorns is roughly equivalent to survey year 2019. Good acorn production is usually associated with generally worse hunting prospects for big game becuse animals don't need to move as much to meet their daily nutritional needs; the "spotty" and heterogeneous nature of production of acorns across the landscape in 2020 should allow diligent hunters to effectively pursue game animals such as squirrels, raccoons, bears, boars, and deer in very successful fashion provided they scout the areas they plan to hunt and find the pockets of available food.

All soft mast producers underperformed -- in some cases considerably-- the levels seen in survey year 2019. Apple (-83%), Crabapple (-65%), and Hawthorn (-57%) fruit production declined dramatically as blossoms fell victim to late frost and cold mid-May weather in many parts of West Virginia. Comparison to the long-term soft mast average paints a similarly bleak picture with Crabapple (-57%) and Hawthorn (-49%) fruit much scarcer than in a typical year, and Apples (-80%) a precious commodity across much of the state. Grape (-48%) and Black Cherry (-42%) crops were well below production levels seen in 2019 and well below the long-term average at -45% and -33%, respectively. Indeed, relative to the long-term average, all surveyed soft mast producing species were off from 15% (Blackberry) to an astounding 80% (Apple). Even Yellow Poplar, a reasonably reliable crop sometimes utilized by squirrels when other foods are scarce, produced at levels more than 40% below average. Soft mast provides significant and calorie-rich food resources for wild turkeys, ruffed grouse, black bears, and raccoons, all of which use soft mast extensively when and where it is available. Unlike last year, soft mast production did not differ significantly between high and low elevations and decreases were near uniform. Hunters should take note of this information and scout accordingly -- species that heavily use soft mast may be concentrated in pockets of available food early in the season, and knowing where such pockets exist should make the likelihood of a successful harvest higher.

When considering all mast-producing species, the 2020 mast index was nearly 39% below last year and slightly more than 35% below the long-term average (Fig. 2). The overall hard mast crop -- which includes production of beechnuts, hickory nuts, walnuts, and acorns -- was down over 25% relative to survey year 2019 and nearly 22% below the long-term average. The Black Oak group (excepting Scrub Oak) acorn production, while well above average, was not enough to counterbalance strong declines in abundance of other hard mast. The hickory - cherry - oak association produced at levels nearly 20% less than in survey year 2019 and just over 19% below the long-term average; this is an unsurprising result as all of these species underperformed strongly.

Hunters should always pay attention to mast crop production in their area (Table 3; Table 4). Survey year 2020 revealed a crop that was universally poorer than that of 2019 across all ecoregions of West Virginia, but some areas were not as hard-hit by late frost and cold spring weather as others. While Ecoregion 1 (Eastern Panhandle, -25%) had a poorer crop than last year, it seemed to fare better than the other five regions; the overall picture was made slightly rosier than elsewhere by a strong Beech crop (+29%), better Scarlet Oak production (+16%), and good fruit production by Blackberry (+107%), Greenbrier (+26%), and Dogwood (+60%). White Oak and Chestnut Oak acorns were interestingly more abundant in the highlands (Region 2), southern counties (Region 3), and central counties (Region 4) of the state as compared to 2019, but despite these small increases, overall crop for these species was well below the long-term

average. Red Oak/Black Oak and Scarlet Oak were above long-term production levels nearly statewide, excepting the southwestern counties, but most mast-producing species seem to have performed consistently poorly almost everywhere. Mast production was down from 25% (Region 1) to 46% (Region 2) statewide from last year. Comparisons to the long-term average provide a more tempered index to mast crop than do annual comparisons, wherein relatively small variations in production of a particular species can drastically influence percent change as indicated by the comparison and therefore may not provide a representative index to true abundance. Considering long-term comparisons, the total mast crop of survey year 2020 appears to be exceptionally poor overall. Indeed, this year had the poorest cumulative index score recorded since the survey was first conducted. However, not all is sorrow; oak mast was not catastrophically low, so species that rely heavily upon acorns to build their fat reserves for winter will find resources, but competition will be high. Hunters should reap the rewards, in terms of game harvest, of increased game animal movement brought on by decreased food availability on the landscape.

We recommend hunters review regional trends in mast production as reflected in Tables 3 and 4 to learn the wildlife food conditions in the regions of the state they intend to hunt. While this information should prove to be a valuable asset to all readers, local and regional differences are always at play when it comes to mast production. The West Virginia Mast Survey is intended to provide a representative regional and state-wide picture of wildlife food conditions “on the ground,” but it is not a substitute for diligent scouting!

2020 Mast Survey Highlights

- All Species Combined mast index is approximately 35% below the long-term average statewide, and 39% below 2019.

- All Hard Mast Species mast index is below the long-term average by 22% statewide and 25% below 2019.

- While Scarlet Oak acorn production was up significantly from 2019 across much of the state, production of other oak species is generally well below 2019 levels and the long-term average. Red Oak/Black Oak production was not far below 2019’s crop and was well above the long-term average. Red Oak, Black Oak, and Scarlet Oak acorns should be most available statewide and should supply good nutrition to the species that depend upon them.

- Beech production was down overall but was 70% above the long-term average in the Eastern Panhandle. Turkey and bear hunters in DNR District II should note this fact.

- Soft mast production was down dramatically statewide relative to both 2019 and the long-term average, and many species -- notably Apple -- suffered heavily due to late frost and cold spring weather.

Table 1. 2020 statewide index compared to 2019 mast index.

Species	2019	2020	Percent Difference
Beech	43	22	-50
Walnut	56	27	-51
Hickory	55	25	-54
White Oak	20	17	-12
Chestnut Oak	17	14	-17
Black/Red Oak	55	53	-4
Scarlet Oak	39	51	33
Black Cherry	54	31	-42
Grape	44	23	-48
Scrub Oak	37	31	-18
Yellow Poplar	48	28	-42
Hawthorn	58	25	-57
CrabApple	66	23	-65
Dogwood	57	41	-27
Blackberry	49	43	-12
Greenbrier	37	30	-20
Sassafras	29	11	-62
Apple	67	11	-83
All Species	**46**	**29**	**-37**

Table 2. 2020 statewide index compared to 49-year average mast index.

Species	Avg Index	2020	Percent Difference
Beech	39	22	-45
Walnut	39	27	-30
Hickory	49	25	-48
White Oak	37	17	-54
Chestnut Oak	33	14	-57
Black/Red Oak	42	53	27
Scarlet Oak	33	51	56
Black Cherry	46	31	-33
Grape	42	23	-45
Scrub Oak	36	31	-15
Yellow Poplar	47	28	-40
Hawthorn	49	25	-49
CrabApple	54	23	-57
Dogwood	49	41	-16
Blackberry	51	43	-15
Greenbrier	40	30	-25
Sassafras	35	11	-69
Apple	58	11	-80
All Species	**43**	**29**	**-33**

Table 3. Percent difference in mast index by species between 2019 and 2020 by ecological region.

	Ecological Region					
Species	1	2	3	4	5	6
Beech	29	-49	-58	-35	-43	-60
Walnut	-58	-88	-55	-16	-33	-36
Hickory	-58	-91	-34	-53	-43	-35
White Oak	-7	443	46	10	-68	-87
Chestnut Oak	-47	3	13	6	25	-53
Black/Red Oak	-26	-14	29	28	-12	-47
Scarlet Oak	16	-49	172	83	65	-37
Black Cherry	4	32	-51	-49	-57	-64
Grape	-48	-58	-31	-76	-43	-30
Scrub Oak	-6	0	N/A	N/A	-100	20
Yellow Poplar	-7	-60	-60	-65	-47	85
Hawthorn	-84	-32	-90	-59	-71	-38
CrabApple	-86	-71	-44	-86	-83	18
Dogwood	60	-41	-32	-53	-61	-13
Blackberry	107	2	-40	-67	19	-51
Greenbrier	26	-17	-29	-52	6	17
Sassafras	-93	-40	-5	-83	-68	-21
Apple	-79	-89	-77	-83	-93	-64
All Species	**-25**	**-46**	**-30**	**-45**	**-41**	**-35**

Table 4. Percent Change in 2020 mast index by species from average of years (1971-2019) by ecological region.

	Ecological Region					
Species	**1**	**2**	**3**	**4**	**5**	**6**
Beech	70	-63	-44	-51	-36	-42
Walnut	-46	-79	-45	5	11	12
Hickory	-49	-86	-37	-50	-48	-22
White Oak	-74	-78	-15	-51	-83	-82
Chestnut Oak	-84	-80	-51	-52	-25	-30
Black/Red Oak	0	9	58	49	11	-8
Scarlet Oak	48	5	97	49	43	-1
Black Cherry	-15	-11	-35	-47	-34	-50
Grape	-27	-73	-51	-74	-28	-3
Scrub Oak	-28	-9	-100	N/A	-100	199
Yellow Poplar	-6	-70	-47	-67	-40	18
Hawthorn	-85	-18	-88	-65	-65	7
CrabApple	-84	-63	-17	-85	-81	29
Dogwood	64	-33	-29	-41	-49	4
Blackberry	76	-14	-42	-67	48	-55
Greenbrier	21	-46	-43	-37	15	8
Sassafras	-91	-60	-68	-86	-58	-34
Apple	-73	-85	-76	-81	-93	-52
All Species	**-29**	**-52**	**-36**	**-50**	**-36**	**-24**

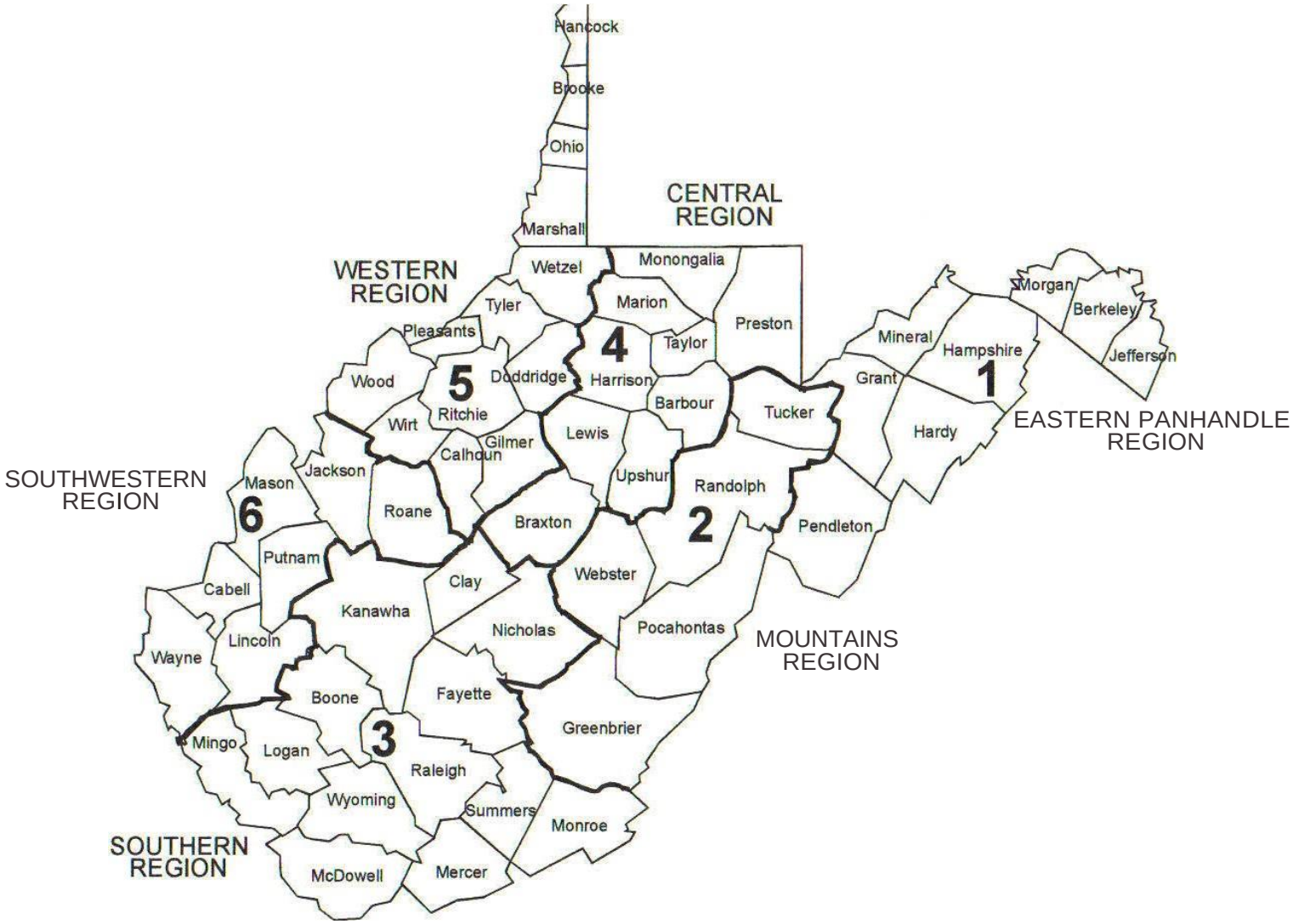

Figure 1. Ecological regions of West Virginia for 2020 mast survey.

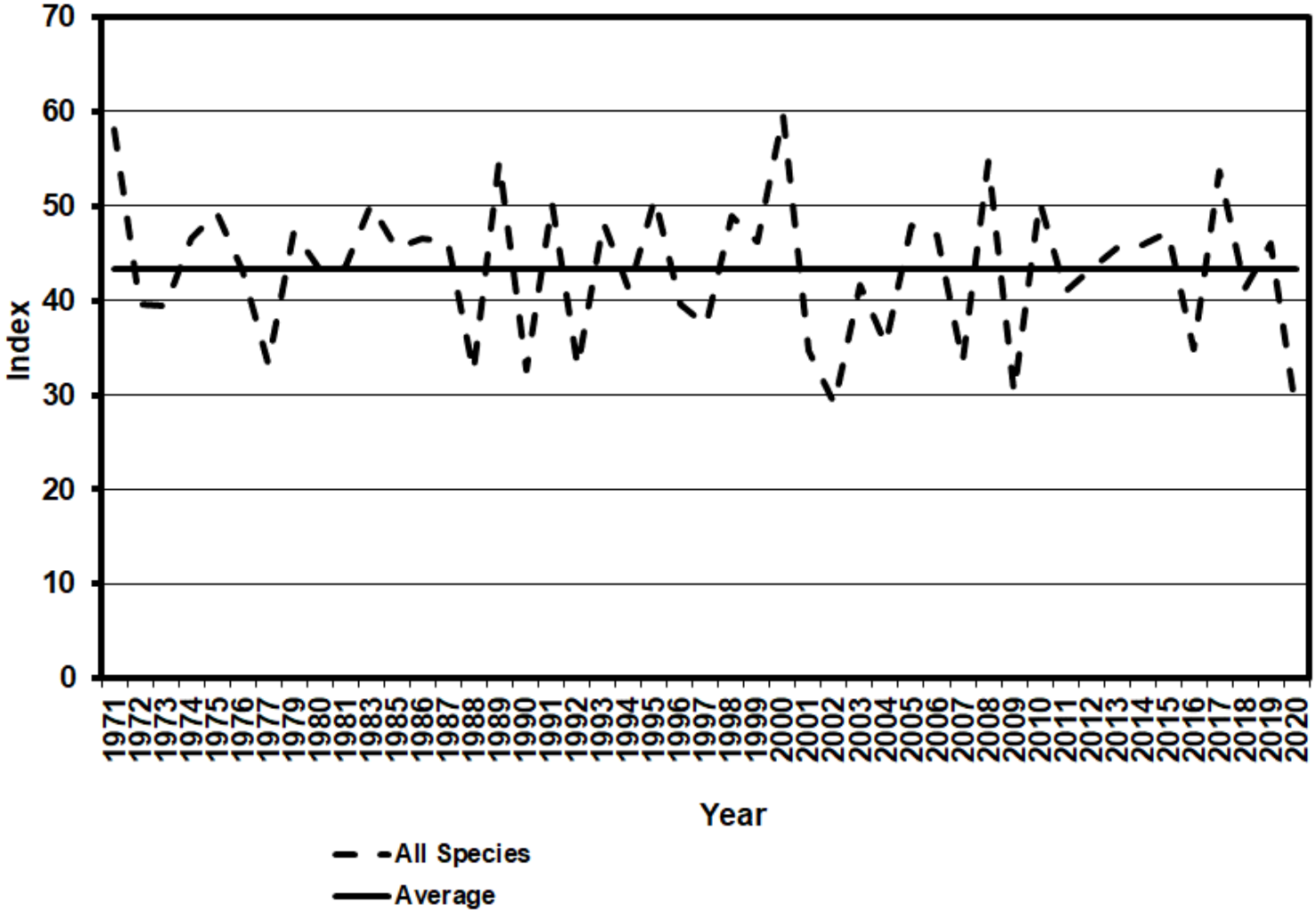

Figure 2. All mast species from 1971-2020 compared to the long-term average.

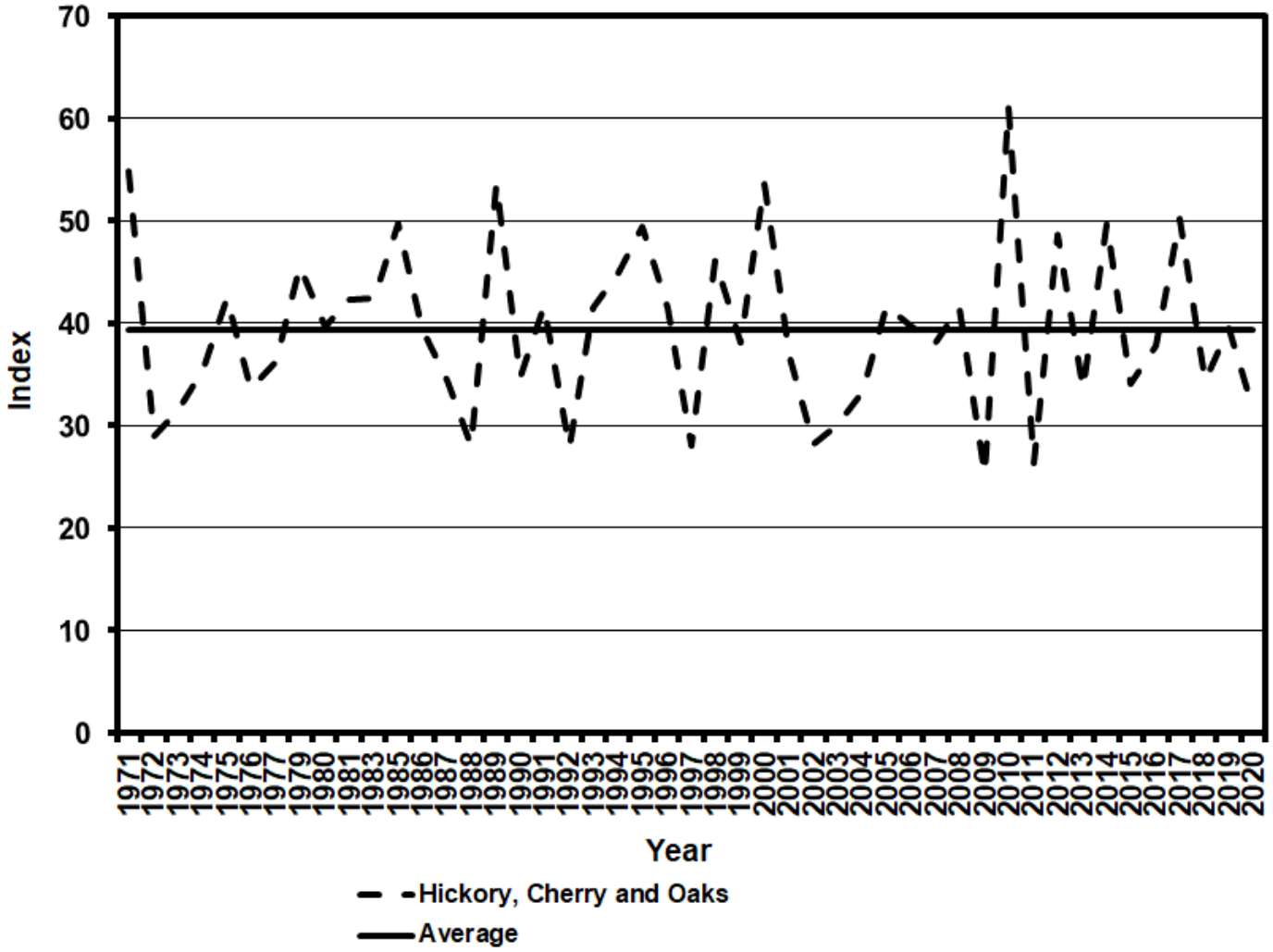

Figure 3. Hickory, black cherry and all oak species 1971-2020 compared to the long-term average of those species.

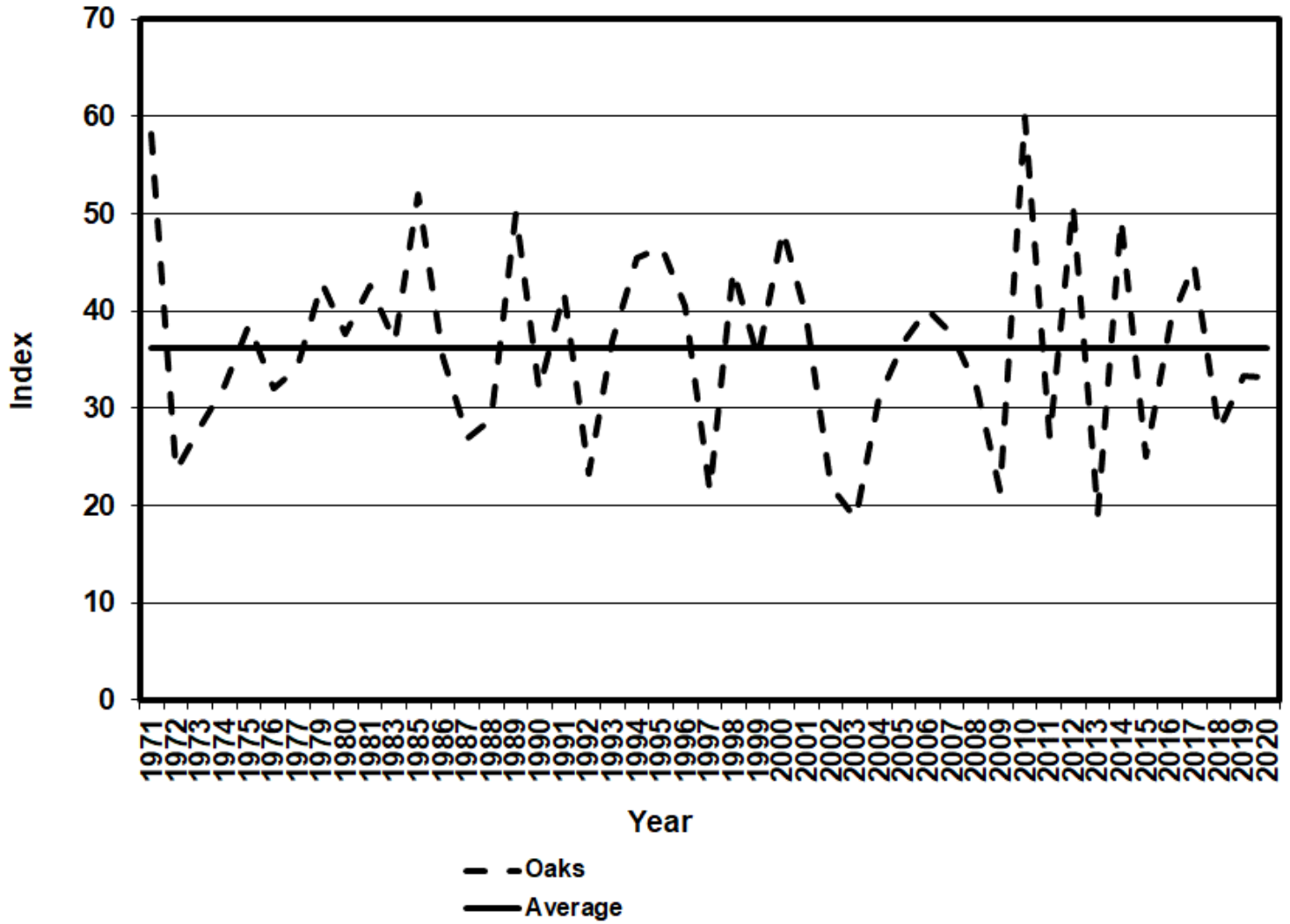

Figure 4. Annual oak variation 1971-2020 compared to the long-term average.

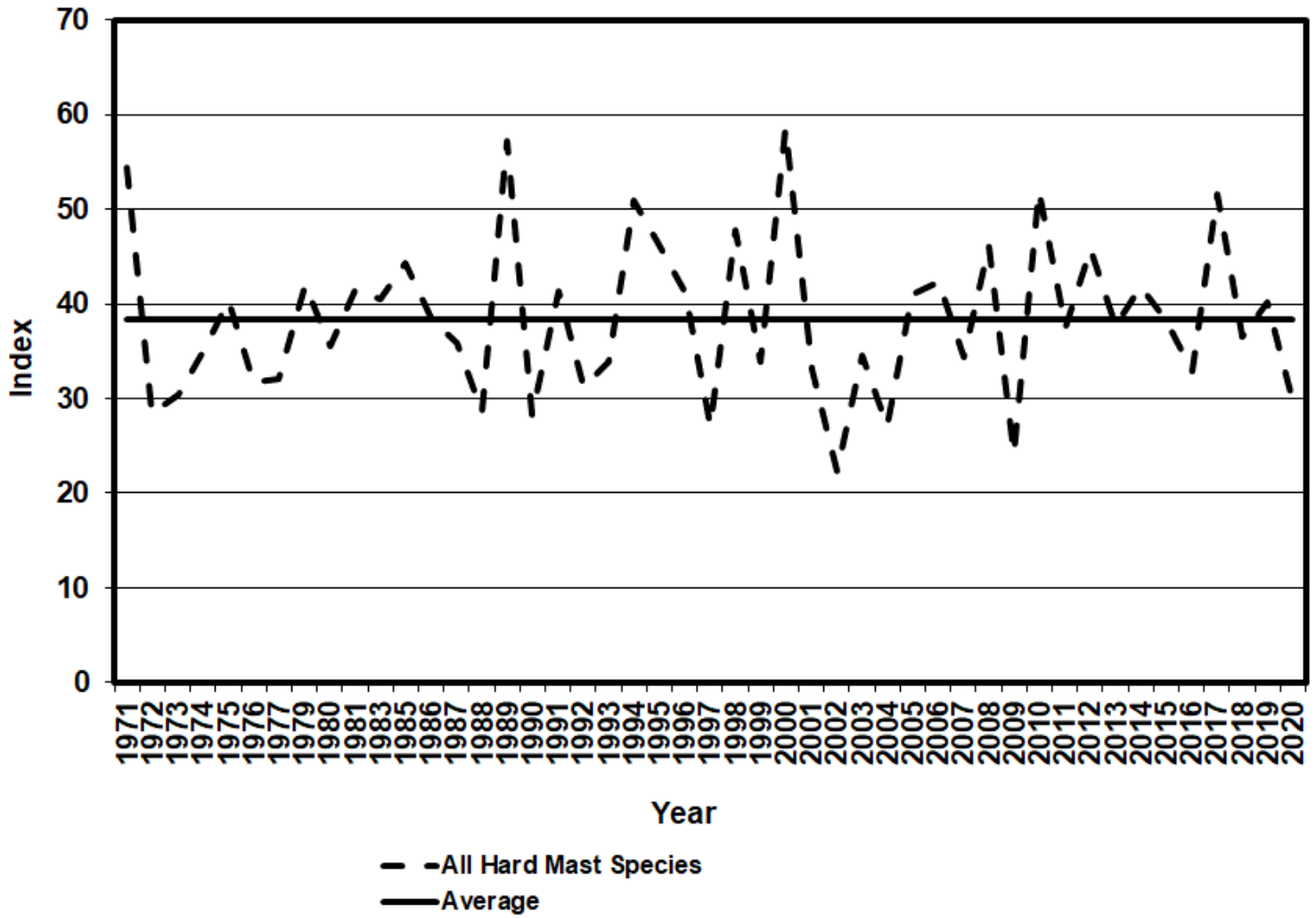

Figure 5. All hard mast species 1971-2020 compared to the long-term average.

HUNTING OUTLOOK

Eric Richmond, Chris Ryan, Linda Ordiway, Kaylee Pollander, Ethan Barton, Colin Carpenter and Holly Morris

Black Bear

Bear hunting opportunities have never been better in West Virginia. Hunters will have the opportunity to hunt bears during 3 different early firearms seasons with or without dogs in 24 counties over 30 days. Bear archery season is open for over 3 months. Twenty–nine counties will be open for concurrent bear hunting on public and private lands during the October firearms antlerless deer season. Once again, there will be 51 counties open to concurrent deer and bear hunting during the buck firearms season with no permit required, and every county in the state is open for a December bear firearms season (with or without dogs allowed depending on county). Hunters will also have the opportunity to hunt bears for 4 days in January during the Mountaineer Heritage Season. **In 2020, we are predicting a record bear harvest.**

Archery hunting success rates depend greatly on mast conditions. Harvests decrease in years of mast abundance and increase in years of mast scarcity. The archery harvest should be similar in 2020. Hunters who focus their efforts in red, black, or scarlet oak stands should increase their odds for success. If hunters can find the patches of white oak that hit in 2020, their chances of success should increase.

The firearms bear harvest should be greater than the harvest of 2019. Long early bear seasons, a greater number of counties open to concurrent bear and deer hunting in October and 51 counties open for concurrent deer and bear hunting during the buck firearms season will help bolster the harvest. Hunters will most likely find December bruins cleaning up the remaining red oak group acorns.

White-tailed Deer

The total White-tailed Deer harvest in 2020 should be higher than that of 2019. Following a slightly above-average mast crop in 2019 and a very mild winter season, deer survival and fawn recruitment should have been quite good. Coupled with a below-average deer harvest in 2019 and potential increased participation in hunting or increased hours afield associated with the COVID-19 pandemic, conditions are excellent for an above-average deer harvest. Poor mast conditions should lead to increased deer movement as animals must travel farther from bedding cover to meet their nutritional necessities. Consistent with harvest levels as related to poor mast crops in past years, hunters should reap substantial rewards this season.

We are predicting **similar archery harvest in 2020.** With available pockets of Black Oak, Red Oak, and Scarlet Oak mast across most of the state, deer may be spread

out and therefore scouting will be important to identify food resources in proximity to cover. By the later portion of archery season, most mast will be consumed, and deer movement should increase, making it more likely hunters will have an opportunity for harvest.

The **buck firearms season harvest should be higher than in 2019.** A combination of warm weather, a bright moon, pockets of good acorn mast, and post-rut buck movement decreases during the opening week of firearms season likely all contributed to lower harvest in 2019. Following a mild winter and a low, relative to the five-year average, buck harvest last year, buck hunting prospects in 2020 should be better than they have been in a number of years. A poor overall mast crop means deer should be moving to find food in the firearms season. Many states have reported increased hunting participation and days afield associated with the COVID-19 pandemic as people have both more time and see more value in "getting outdoors." If West Virginia follows the same reported hunting trends, and harvest levels hold true as related to poor mast performance in past years (e.g., 2002, 2009), harvest should be substantially higher than in 2019.

The **antlerless harvest should be higher than in 2019.** For some of the same reasons as listed above, we expect doe harvest to increase over the relatively low levels of last year. There were no season or bag limit changes for antlerless deer between last year and this year, and Hemorrhagic Disease was relatively inactive in the state in 2020 as compared to the past few years. Only a few isolated cases were identified in two counties, generally restricted to a small number of watersheds. Cold weather and early frosts in September may have helped to suppress any localized HD outbreaks. It is highly unlikely hunters will see any local density effects even if they hunt in areas where HD was active; perceived density effects due to HD may make hunters less likely to take antlerless deer. Hunters should have plenty of opportunities to harvest a doe this season, and most counties are at or near desired deer management objectives.

The **muzzleloader harvest should be similar to 2019.** Muzzleloader harvest levels are heavily influenced by weather and participation. Hunters should find ample opportunities for muzzleloader harvest this season. If expected patterns of increased hunting participation associated with COVID-19 manifest in West Virginia, harvest may exceed last year's levels.

The relatively new **Mountaineer Heritage Season should see a similar harvest to 2019.** Primitive weapons (flintlocks, caplocks, recurve bows, and longbows) are exceptionally challenging tools with which to harvest deer even under optimum conditions, and the individual hunter success rate with these weapons is generally low. After two years of existence for this season, it is likely the recruitment pool for interested hunters may be reaching a plateau. As primitive weapons require much specialized knowledge and skill to be used effectively, harvest levels are probably most constrained by weather and hunter effort over the short season. Hunters who embrace their Mountaineer heritage and take to the woods in January 2021 should have excellent opportunities to harvest a deer (bear sightings will probably be a rarity in January 2021,

weather depending, given the poor mast crop), and the overall harvest should be similar to slightly better.

Gray and Fox Squirrels

Squirrel numbers are a direct result of food conditions from the previous year. Squirrels usually produce a summer litter, but the spring litter is dependent upon overwinter food availability. Average mast conditions from last year and a mild winter should result in plenty of squirrels that will be concentrated around the available food sources. Early season hunters should look towards hickory and shift emphasis into the red oaks later in the season. **Hunters should expect a higher harvests in 2020-2021 season.**

Wild Boar

Wild boar hunters recorded the fourth highest harvest in the last two decades last year. Hunters had the opportunity to hunt in early February which produced the highest numbers in the harvest. Traditionally, hunters have been less successful during the October firearms season when weather conditions are warm and dry and leaf fall makes boar sign more difficult to locate. Wild boar harvests have been on an upward trend. Reproduction is directly linked to mast conditions of the previous year. Last years mast conditions coupled with an above average harvest should produce a **harvest that compares similarly to that of 2019.**

Ruffed Grouse

Grouse hunters should continue to focus their hunting efforts in the mountainous regions. Areas with Beech, Black Cherry and Hawthorn within the higher elevations would provide the best opportunities. Hunters should look for these species within close proximity of known forest disturbance. Grouse use a mix of forest age classes and related vertical structure to complete their yearly cycle requirements. Increased timber management on both private and public lands would benefit the overall population of grouse and hunter opportunities. **Hunters should expect lower flushing rates and lower harvest success during the 2020-2021 season.**

Cottontail Rabbits

The mild winter certainly helped rabbit populations but the dry conditions in late summer have severely limited escape cover. Habitat is the primary factor driving the cottontail populations and the lack of early successional habitat is the main reason for long-term bunny declines in West Virginia. Annual fluctuations in cottontail populations on a short term are driven by environmental conditions, primarily precipitation. When we

experience very dry summer conditions, as in July 2020, vegetation dries up and rabbits become more susceptible to predators. Everything with sharp canines or talons loves to have bunny on the dinner table and the lack of rain makes that meal easier. Hunters will have to seek out dense cover to have good success. **Hunters should expect lower populations in 2020.**

Wild Turkey

Fall turkey harvests are heavily influenced by brood production in that year and available mast. Brood production is similar this year compared to years past across the state, except for counties in southern West Virginia. Cicada brood IX hatched this year in Fayette, Greenbrier, Mercer, Monroe, Pocahontas, and Summers Counties, proving an ample food source for turkey poults. This resulted in a more poults than average surviving into the fall season in this region.

Every county will again have some length of fall turkey season in 2020. Traditional counties will continue to have a 4-week season. Non-traditional counties will have either a one- or two-week season. Hunters should check the 2020-2021 Hunting Regulations on page 42 to find out the regulations on their specific county**. The Wild Turkey harvest should be similar to last year because of similar reproduction and decreased mast availability across the state, with the exception higher harvest in the counties where cicada hatches influenced brood survival.** The decreased mast availability will have turkeys actively moving across the landscape in search of food, making them more available to hunters.

Raccoon

Hunters should expect similar raccoon harvests to last year. Raccoon populations, like other game species, are highly dependent on hard and soft mast conditions. Last year mast conditions were above the long-term average for most species and the winter was mild. Despite generally poor mast conditions this year, the population should be average to good going into the fall. A decline in the value of furbearer pelts has led to a decline in hunting and trapping efforts in recent years but some areas of the state have been impacted by disease over the last decade. A combination of these factors should produced similar hunting conditions on a statewide scale.

Table 1. 2020 quick check chart of predicted statewide wildlife harvests.

Species	Higher	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. 2020 quick check chart of deer harvest forecast by region and season.

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

2020 HUNTING PROSPECTS

PLEASE CHECK BELOW WHETHER YOU THINK HUNTING WILL BE THE SAME, BETTER OR POORER THAN 2019 FOR EACH GAME SPECIES LISTED. LIST THE COUNTY YOU ARE RATING. USE A SEPARATE SHEET FOR EACH COUNTY. IF YOU DO NOT KNOW, OR IF THE GAME SPECIES IS NOT PRESENT IN YOUR WORK AREA, DO NOT CHECK ANYTHING. USE CAPITAL LETTERS AS ILLUSTRATED BELOW.

COUNTY RATED: _____ **DATE:** ___ / ___ / ___
Month Day Year

GAME SPECIES	BETTER	SAME	POORER
SQUIRRELS	☐	☐	☐
RABBITS	☐	☐	☐
GROUSE	☐	☐	☐
RACCOON	☐	☐	☐
DEER	☐	☐	☐
TURKEY	☐	☐	☐
QUAIL	☐	☐	☐
BEAR	☐	☐	☐
OTHERS (LIST)	☐	☐	☐
	☐	☐	☐

REMARKS: _____

_____

NAME OF PERSON REPORTING: _____

DIVISION: _____

ADDRESS: _____

_____ | _____ | _____
City State Zip

Important! *The form should be completed IN CAPITAL LETTERS using a BLACK or DARK BLUE ballpoint/fountain pen. Characters and marks used should be similar in the style to the following:*

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 1 2 3 4 5 6 7 8 9 0 ☒ ☑

REPORT OF MAST CONDITIONS
2020
(See opposite side for instructions)

LOCATION: _____ **ELEVATION:** ☐ ***High*** ☐ ***Low***

COUNTY: _____ **DATE:** _____ (Month / Day / Year)

ELEVATION: _____ **ASPECT:** _____

AVAILABLE MAST, FRUIT, ETC.

SPECIES	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	☐	☐	☐	☐

REMARKS _____

NAME OF PERSON REPORTING _____

DIVISION: _____

ADDRESS: _____

INSTRUCTIONS FOR REPORTING MAST CONDITIONS

PLEASE PRINT CLEARLY USING A BLUE OR BLACK INK. USE CAPITAL LETTERS AS ILLUSTRATED BELOW

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: Enter the date (month/day/year) on which the survey was made.

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

AVAILABLE MAST, FRUIT, ETC.

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

Please return the forms by August 31, 2020 so that compilations can be made immediately thereafter.

Mail completed forms to:

WV Division of Natural Resources

Mast Survey

PO Box 67

Elkins, WV 26241

RETURN BY AUGUST 31, 2020

Important! The form should be completed IN CAPITAL LETTERS using a BLACK or DARK BLUE ballpoint/fountain pen. Characters and marks used should be similar in the style to the following:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 1 2 3 4 5 6 7 8 9 0 ☒ ☑

Federal Aid Project

funded by your purchase of

hunting equipment

Mast Survey

Wildlife Resources
West Virginia Division of Natural Resources

324 Fourth Avenue
South Charleston, WV 25303

(304) 558-2771
Fax: (304) 558-3147

Bulletin 20-04

Your purchase of
Hunting equipment
Supports
Wildlife Restoration

250

09/20