



WEST VIRGINIA  
**DIVISION OF  
NATURAL  
RESOURCES**  
ANNUAL REPORT  
2016-2017







324 4th Avenue  
South Charleston, West Virginia 25303

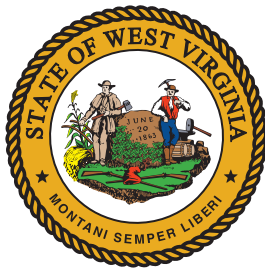
**Telephone:** (304) 558-2754  
**Fax:** (304) 558-2768

**Web sites:**

[www.wvdnr.gov](http://www.wvdnr.gov)  
[www.wvstateparks.com](http://www.wvstateparks.com)  
[www.wvhunt.com](http://www.wvhunt.com)  
[www.wvfish.com](http://www.wvfish.com)  
[www.wonderfulwv.com](http://www.wonderfulwv.com)

**Electronic mail:**

[DNR.LandAndStreams@wv.gov](mailto:DNR.LandAndStreams@wv.gov)  
[DNR.Law@wv.gov](mailto:DNR.Law@wv.gov)  
[DNR.Parks@wv.gov](mailto:DNR.Parks@wv.gov)  
[DNR.Wildlife@wv.gov](mailto:DNR.Wildlife@wv.gov)



**Jim Justice**

Governor, State of West Virginia

**H. Wood Thrasher**

Secretary, Department of Commerce

**Stephen S. McDaniel**

Director, Division of Natural Resources

**Emily J. Fleming**

Deputy Director / Legislative Liaison

**Verena M. Mullins**

Chief, Administration Section

**Col. Jerry B. Jenkins**

Chief, Law Enforcement Section

**Samuel A. England**

Chief, Parks and Recreation Section

**Paul R. Johansen**

Chief, Wildlife Resources Section

**Joe T. Scarberry**

Supervisor, Land and Streams

**Natural Resources Commissioners**

Jeffrey S. Bowers, *Sugar Grove*

Gregory K. Burnette, *Elkview*

Byron K. Chambers, *Romney*

Peter L. Cuffaro, *Wheeling*

Thomas O. Dotson, *White Sulphur Springs*

David M. Milne, *Bruceston Mills*

Kenneth R. Wilson, *Chapmanville*

The West Virginia Division of Natural Resources Annual Report 2016-2017 is published by the Division of Natural Resources and the Department of Commerce Communications.

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.

# Foreword

## LETTER FROM THE DIRECTOR



**DIVISION OF NATURAL RESOURCES**  
324 4th Avenue, Room 342  
South Charleston, West Virginia 25303-1228  
Telephone 304-558-2754  
Fax 304-558-2768  
TDD 304-558-1439  
TDD 800-354-6087

Jim Justice  
Governor

Stephen McDaniel  
Director

November 6, 2017

The Honorable James C. Justice II  
Governor of West Virginia  
State Capitol  
1900 Kanawha Boulevard, East  
Charleston, West Virginia 25305

Dear Governor Justice:

Transmitted herewith is the annual report for the West Virginia Division of Natural Resources for fiscal year July 1, 2016, through June 30, 2017.

This report contains a summary of the activities and projects undertaken by the Division in the fulfillment of its legal responsibilities of managing the state's renewable natural resources.

A detailed accounting of receipts and expenditures as prescribed by Chapter 20, Code of West Virginia, is also respectfully submitted.

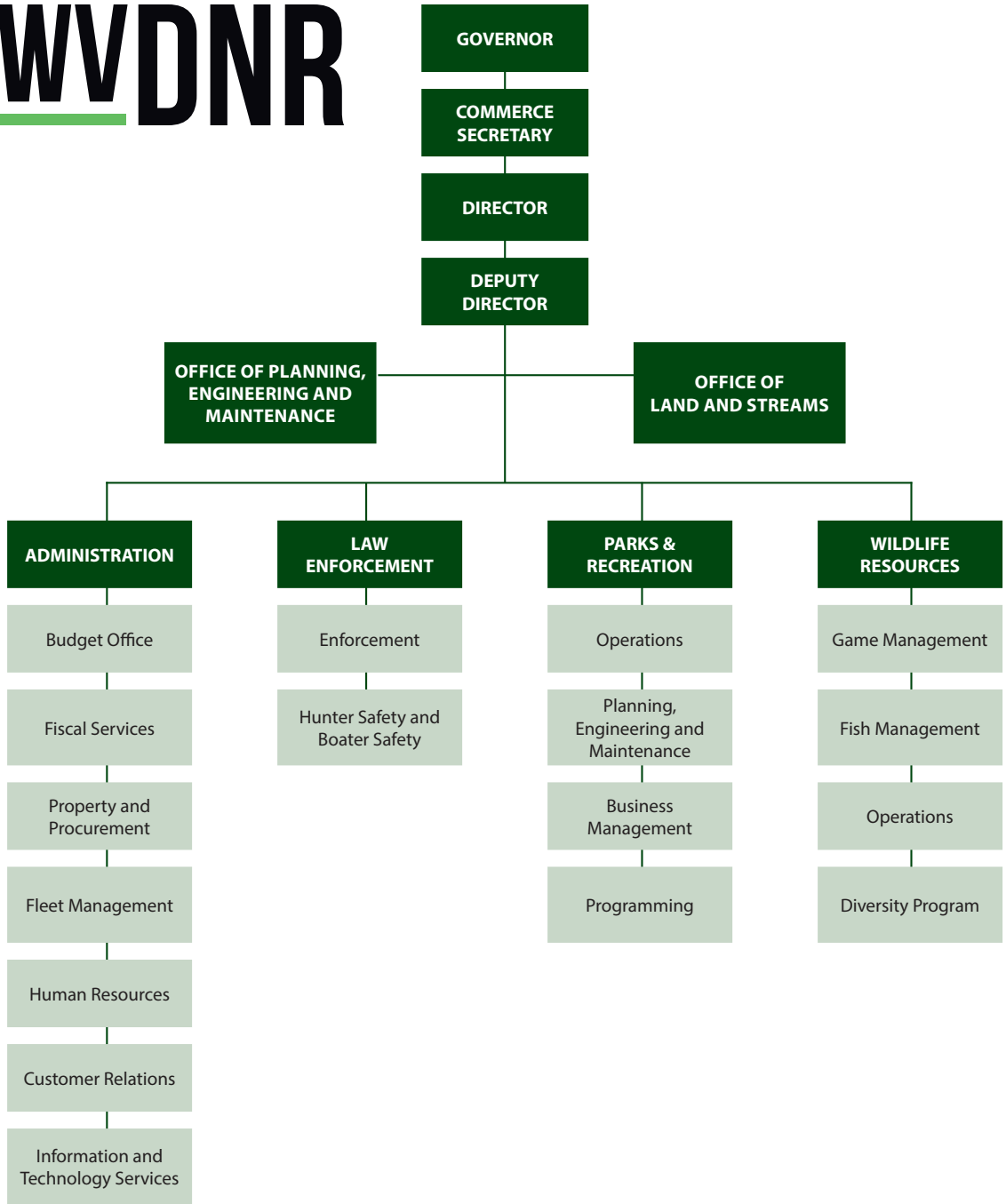
Sincerely,

A handwritten signature in blue ink, appearing to read "S. McDaniel".

Stephen S. McDaniel

SSM:vmt

# DNR ORGANIZATIONAL CHART



## **MISSION STATEMENT**

---

It is the statutory mission of the West Virginia Division of Natural Resources to provide and administer a long-range comprehensive program for the exploration, conservation, development, protection, enjoyment and use of the natural resources of the State of West Virginia.

## **BOARDS AND COMMISSIONS ON WHICH THE DIRECTOR SERVES**

---

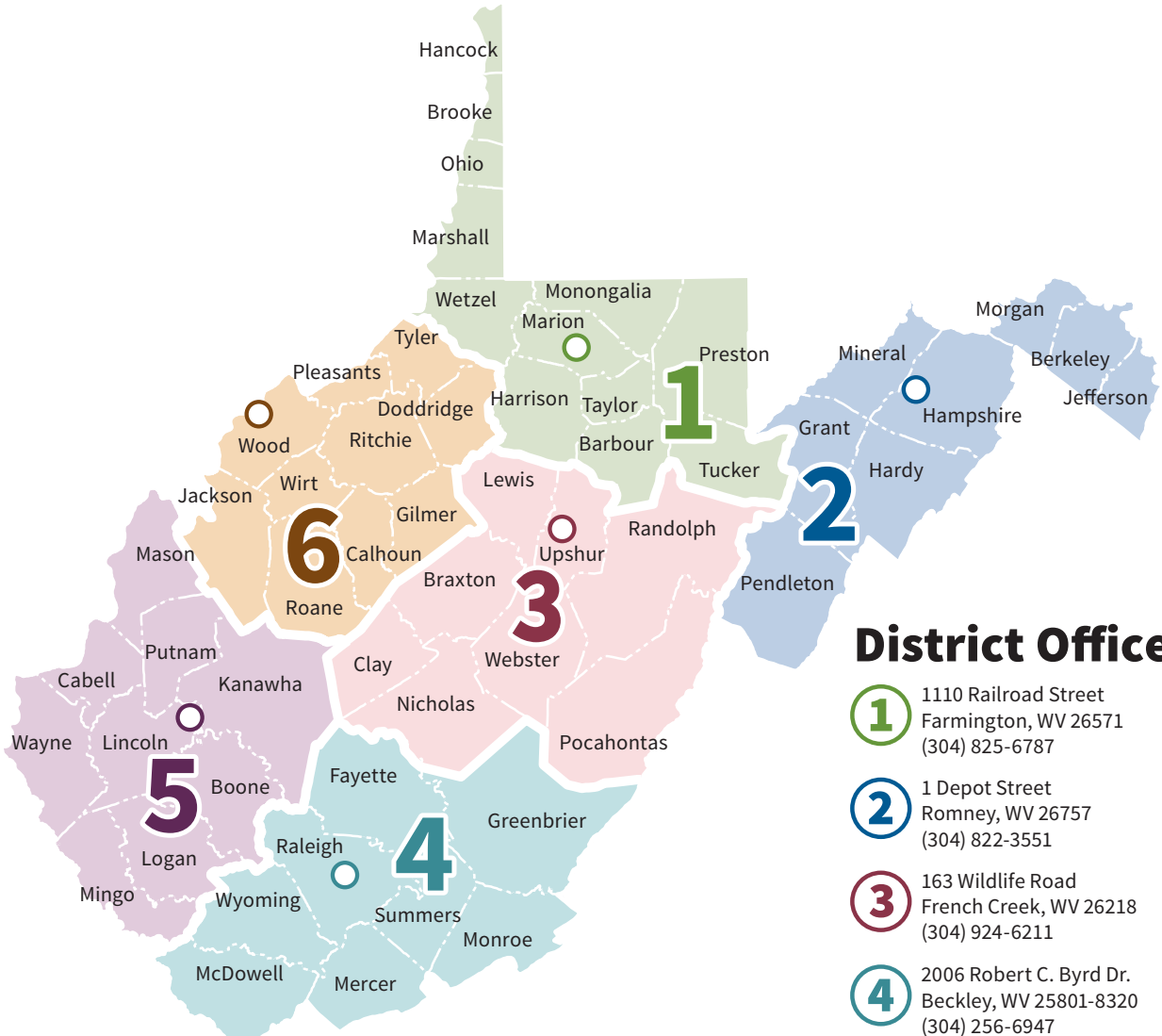
- West Virginia Natural Resources Commission §20-1-17(b)
- Wildlife Endowment Fund Advisory Board §20-2B-2
- West Virginia Public Land Corporation §5A-11-2(b)
- West Virginia Whitewater Commission §20-2-23(a)
- West Virginia Outdoor Heritage Conservation Fund §5B-2G-4(a)
- National Coal Heritage Area Authority §29-27-3(b)

## **EEOC STATEMENT**

---

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. — *November 2016*

# West Virginia Division of Natural Resources District Map



## District Offices

- 1** 1110 Railroad Street  
Farmington, WV 26571  
(304) 825-6787
- 2** 1 Depot Street  
Romney, WV 26757  
(304) 822-3551
- 3** 163 Wildlife Road  
French Creek, WV 26218  
(304) 924-6211
- 4** 2006 Robert C. Byrd Dr.  
Beckley, WV 25801-8320  
(304) 256-6947
- 5** 50 Rocky Branch Road  
Alum Creek, WV 25003  
(304) 756-1023
- 6** 2311 Ohio Avenue  
Parkersburg, WV 26101  
(304) 420-4550





West Virginia Division of Natural Resources

# Wildlife Management Areas

## District 1

(304) 825-6787

1. Bear Rocks Lake
2. Burches Run
3. Castlemans Run Lake
4. Cecil H. Underwood
5. Center Branch
6. Cheat Canyon
7. Cross Creek
8. Dents Run
9. Dunkard Fork
10. Fairfax Pond-Rehe
11. Hillcrest
12. Lantz Farm and Nature Preserve
13. Lewis Wetzel
14. Little Canaan
15. Little Indian Creek
16. Pedlar
17. Pleasant Creek
18. Pruntytown State Farm
19. Snake Hill
20. Teter Creek
21. Upper Deckers Creek

## District 2

(304) 822-3551

22. Allegheny
23. Edwards Run
24. Fort Mill Ridge
25. Nathaniel Mountain
26. Shannondale Springs
27. Short Mountain
28. Sideling Hill
29. Sleepy Creek
30. South Branch
31. Thorn Creek
32. Warden Lake
33. Widmeyer

## District 3

(304) 924-6211

34. Becky Creek
35. Big Ditch
36. Burnsville Lake
37. Elk River
38. Handley
39. Huttonsville
40. Slatyfork
41. Smoke Camp
42. Stonecoal Lake
43. Stonewall Jackson Lake
44. Summersville Lake
45. Valley Bend

## District 4

(304) 256-6947

46. Anawalt Lake
47. Andrew Rowan
48. Beury Mountain
49. Bluestone Lake
50. Horse Creek Lake
51. Meadow River
52. Moncove Lake
53. Panther
54. Plum Orchard Lake
55. R.D. Bailey Lake
56. Tate Lohr
57. Tug Fork

## District 5

(304) 756-1023

58. Amherst/Plymouth
59. Beech Fork Lake
60. Big South
61. Big Ugly
62. Bright McCausland Homestead
63. Chief Cornstalk
64. Chief Logan
65. East Lynn Lake
66. Green Bottom
67. Hilbert
68. Laurel Lake
69. McClintic
70. Mill Creek
71. Morris Creek
72. Tomblin
73. Upper Mud River

## District 6

(304) 420-4550

74. Buffalo Run
75. Conaway Run Lake
76. Elk Fork Lake
77. Frozen Camp
78. Hughes River
79. O'Brien Lake
80. Ritchie Mines
81. Rollins Lake
82. Sand Hill
83. Stumptown
84. The Jug
85. Turkey Run
86. Wallback
87. Woodrum Lake

## State Forests

(304) 558-2764

- A. Cabwaylingo
- B. Calvin Price
- C. Camp Creek
- D. Coopers Rock
- E. Greenbrier
- F. Kanawha
- G. Kumbrabow
- H. Seneca

## National Forests

### Monongahela WMAs

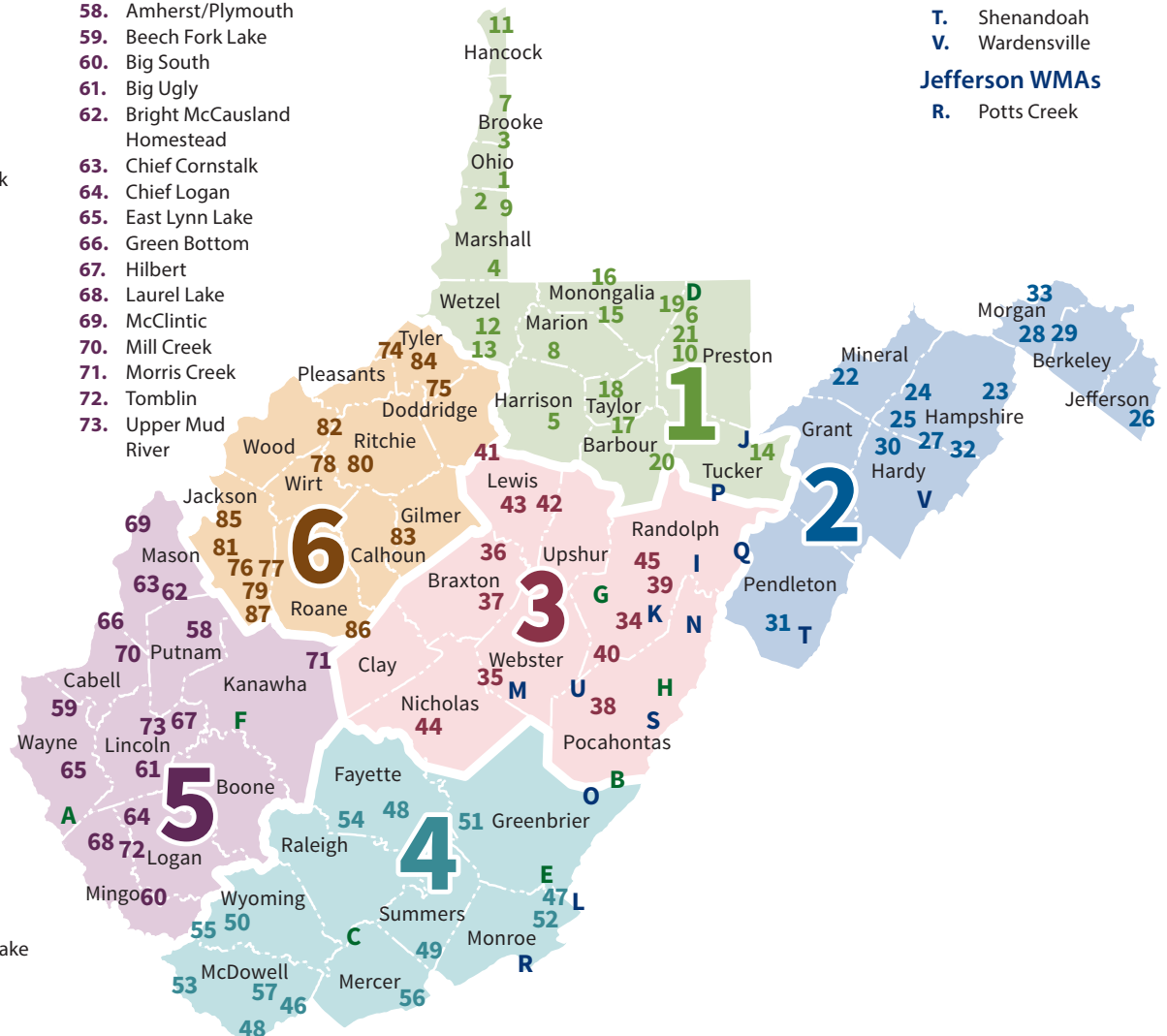
- I. Beaver Dam
- J. Blackwater
- K. Cheat
- M. Cranberry
- N. Little River
- O. Neola
- P. Otter Creek
- Q. Potomac
- S. Rimel
- U. Tea Creek

### George Washington WMAs

- L. Cove Creek
- T. Shenandoah
- V. Wardensville

### Jefferson WMAs

- R. Potts Creek



## TABLE OF CONTENTS

---

<b>Administration Section .....</b>	<b>1</b>
Human Resources .....	1
Fleet Management .....	1
Business Technology.....	2
Property and Procurement.....	2
Customer Relations .....	3
Hunting and Fishing License Sales .....	4
Budget .....	11
Fiscal Services.....	11
Statement of Disbursements.....	11
Combining Statement of Revenues, Disbursements and Changes in Cash Balances .....	17
<b>Office of Land and Streams.....</b>	<b>33</b>
Land Acquisition .....	33
Rivers and Stream Management.....	33
Other Functions.....	33
Properties Acquired .....	34
Land Licensed or Leased to DNR.....	34
Options to Purchase Obtained.....	35
Parcels in Process of Acquisition.....	35
Property Management.....	36
Rivers and Stream Management.....	36
2016-2017 Commercial Dredgers Report .....	36
<b>Law Enforcement Section .....</b>	<b>37</b>
Law Enforcement Program.....	37
Officer Training .....	38
Hunter Education Program.....	38
Boating Safety/Education Program.....	39
Whitewater Enforcement Program.....	39
Law Enforcement Activity.....	40
Report of Prosecutions by Charge.....	40
Prosecution Program by District.....	45
<b>Parks and Recreation Section .....</b>	<b>48</b>
Overview .....	48
General Information.....	49
Finances.....	50
Individual Area and Section Activity Reports .....	51
<b>Planning/Engineering/Maintenance Section.....</b>	<b>61</b>
Overview .....	61
<b>Wildlife Resources Section.....</b>	<b>64</b>
Administration .....	64
Game Management .....	66
Fish Management .....	72
Fisheries and Habitat Surveys .....	74
Wildlife Diversity Program .....	79
Natural Heritage Program.....	87
Technical Support Unit .....	100
<b>Index.....</b>	<b>109</b>

# Administration



## Administration Section

Verena M. Mullins,  
*Chief*

The Administrative Section provides services to all Division of Natural Resources offices in the areas of budgeting, accounting, investments, staffing, payroll, employee relations, employee benefits, workforce development, procurement, property management and control, fleet management, general services, computer application development and maintenance, customer relations and hunting and fishing license sales. It also publishes *Wonderful West Virginia* magazine.

The section is composed of eight major units: Office of the Chief, Customer Relations, Human Resources, Fiscal Services, Budgets, Property and Procurement, Fleet Management and Business Technology Services.

## HUMAN RESOURCES

---

The Human Resources unit was created by integrating Staffing Services and Payroll and Employee Benefits. The Human Resources Director oversees the Employee Relations, Workforce Development and Employment Services subunits. The HR unit processed 109 postings, 565 new hires, 30 resignations, 20 retirements, 256 terminations, 42 Workers' Compensation claims, and 141 Unemployment claims. The unit has 11 staff members.

## FLEET MANAGEMENT

---

The Fleet Management unit oversees all administrative tasks pertaining to agency-owned vehicles (cars, trucks, boats, ATVs, UTVs and utility trailers). These tasks include fuel and maintenance management, titles and registration, inventory management, insurance, reimbursements of sold vehicles and driver safety training. The Fleet Coordinator is the unit's only staff member. Due to restrictions on vehicle purchases, only two new vehicles were purchased in FY2017, while 117 were retired. Of those retired vehicles, 83 were part of the Agency's fleet reduction. The rest were either wrecked or replaced by newly acquired vehicles. A total of \$78,035.50 was received as reimbursement for agency vehicles that were sold. The Agency received 100 percent compliance for the Driver's Safety Training in calendar year 2017.



## BUSINESS TECHNOLOGY

The Business Technology unit performs IT support services, technology planning, project management and database and document services. This technical component of the Administration Section is charged with supporting business operations by utilizing and improving available technology. With the elimination of the wvdnr.biz site, the agency saved \$3,000 annually and created a true intranet. This unit is composed of one full-time staff member and has processed 2,645 website updates, 52 SharePoint updates and 96 technical support tickets. The agency’s websites have received a combined total of more than 12 million hits within the reporting period. The breakdown of hits includes:

- WVDNR.gov ..... 4,307,706
- State Parks ..... 8,506,003
- Wonderful WV ..... 29,920
- SharePoint ..... 11,938
- WVDNR.biz ..... 29,920

## PROPERTY AND PROCUREMENT

The Property and Procurement unit is responsible for the procurement of products and services for the entire agency. It is committed to providing good customer service and assistance to staff and vendors in an efficient and ethical manner that reduces costs, maximizes competition, protects public funds and ensures compliance with all applicable laws, rules and regulations. The Property and Procurement unit is composed of five staff members who processed 265 added fixed property assets, retired 367 fixed assets, processed 58 WV-48 Agreements, and 1,169 Agency Delivery Orders. The unit also awarded 245 contracts with the breakdown as follows:

- Purchases \$2,500 - \$5,000.....40
- Purchases \$5,000 - \$25,000 .....75
- Purchases over \$25,000 ..... 130

## CUSTOMER RELATIONS

---

Customer Relations is a newly formed unit within the Administration Section. It was created by transferring the Hunting and Fishing License unit from the Wildlife Resources Section and combining it with the *Wonderful West Virginia* magazine staff, as well as front desk operations, the first point of contact at the South Charleston Headquarters location. The unit is composed of 10 staff members.

*Wonderful West Virginia* magazine is an official publication of the West Virginia Division of Natural Resources and is the state's premier magazine. In FY 2017, the average number of copies mailed each month to paid individual subscribers was 22,186. In addition, some 1,434 copies were distributed each month to paid bulk subscribers such as governmental agencies, Chambers of Commerce, hotels, real estate firms, state park gift shops, and other newsstand distributors.

The Hunting and Fishing License Unit is responsible for administering all aspects of the hunting and fishing license operations. In 2016, there were 852,909 license privileges sold, resulting in license revenue of \$14,750,726.

The new electronic licensing system (ELS) went live Jan. 1, 2015, marking 2016 as the second year for the sale of 100 percent of hunting and fishing licenses by electronic means.

## Hunting and Fishing License Sales By Residency and Class—Calendar Year 2016

### TOTAL LICENSE SALES

<b>RESIDENT</b>				
<b>Class</b>	<b>Description</b>	<b>Price</b>	<b>Number</b>	<b>Amount</b>
A	Hunting and Trapping	\$ 19.00	18,655	\$ 354,445
AH	Apprentice Hunt & Trapp	\$ 19.00	630	\$ 11,970
AHJ**	Apprentice Junior Hunt & Trapp	\$ 11.00	887	\$ 9,757
B	Fishing	\$ 19.00	80,934	\$ 1,537,746
L	5-Day Fishing	\$ 8.00	1,099	\$ 8,792
N	Antlerless Deer Hunting	\$ 10.00	63,733	\$ 637,330
BG	Big Game	\$ 10.00	4,856	\$ 48,560
RG	Additional Deer - Firearms	\$ 21.00	20,892	\$ 438,732
RB	Additional Deer - Archery	\$ 21.00	16,026	\$ 336,546
RM	Additional Deer - Muzzleloader	\$ 16.00	1,417	\$ 22,672
X*	Sportsman Hunting/Trapping/Fishing	\$ 30.00	94,528	\$ 2,835,840
XJ**	Junior Sportsman Hunting/Trapping/Fishing	\$ 11.00	7,285	\$ 80,135
A-1	Small Arms Hunting	\$ 8.00	6,439	\$ 51,512
DS	Bear Damage Stamp	\$ 10.00	24,189	\$ 241,890
O	Trout Fishing	\$ 10.00	97,025	\$ 970,250
CS***	Conservation Stamp	\$ 5.00	198,951	\$ 994,755
<b>Resident Subtotal</b>			<b>637,546</b>	<b>\$ 8,580,932</b>

\*The listed price of X (\$30) does not include the price of the CS (\$5). Total price of X is \$35.

\*\*The listed price of XJ & AHJ (\$11) does not include the price of the CS (\$5). Total price of XJ & AHJ is \$16.

\*\*\*CS includes the CS stamps sold on X, XJ and AHJ licenses.

**NON-RESIDENT**

Class	Description	Price	Number	Amount
I	National Forest Hunting/Trapping/Fishing	\$ 2.00	16,933	\$ 33,866
E	Non-resident Hunting/Trapping	\$ 119.00	25,585	\$ 3,044,615
EE	Non-resident Bear Hunting	\$ 162.00	1,667	\$ 270,054
AAH	Non-resident Apprentice Hunt & Trapp	\$ 119.00	428	\$ 50,932
AAHJ	Non-resident Apprentice Junior Hunt & Trapp	\$ 16.00	503	\$ 8,048
F	Non-resident Fishing	\$ 37.00	12,972	\$ 479,964
H	Non-resident Small Game Hunting - 6 day	\$ 27.00	844	\$ 22,788
LL	Non-resident Fishing - 1 day	\$ 3.00	43,859	\$ 131,577
NN	Non-resident Antlerless Deer	\$ 27.00	15,034	\$ 405,918
RRG	Non-resident Additional Deer - Firearms	\$ 43.00	4,343	\$ 186,749
RRB	Non-resident Additional Deer - Archery	\$ 37.00	1,995	\$ 73,815
RRM	Non-resident Additional Deer - Muzzleloader	\$ 37.00	179	\$ 6,623
UU	Non-resident Archery Deer	\$ 32.00	6,946	\$ 222,272
VV	Non-resident Muzzleloader Deer	\$ 32.00	1,576	\$ 50,432
WW	Non-resident Turkey	\$ 32.00	3,700	\$ 118,400
XXJ	Non-resident Junior Sportsman	\$ 16.00	2,027	\$ 32,432
A-1	Small Arms Hunting	\$ 8.00	864	\$ 6,912
DS-EE	Bear Damage Stamp	\$ 10.00	1,620	\$ 16,200
OO	Trout Fishing	\$ 16.00	15,204	\$ 243,264
J	Small Game Shooting Preserve Hunting - 6 day	\$ 10.00	1,053	\$ 10,530
CS/LE	Non-resident Conservation / Law Enforcement	\$ 13.00	58,031	\$ 754,403
<b>Non-resident Subtotal</b>			<b>215,363</b>	<b>\$ 6,169,794</b>

<b>Grand Total Resident + Non-resident Sales</b>	<b>852,909</b>	<b>\$14,750,726</b>
--	----------------	---------------------

**Hunting and Fishing License Sales By Residency and Class—Calendar Year 2016**  
**goWILD! ONLINE LICENSE SALES**

<b>RESIDENT</b>				
<b>Class</b>	<b>Description</b>	<b>Price</b>	<b>Number</b>	<b>Amount</b>
A	Hunting and Trapping	\$ 19.00	4,850	\$ 92,150.00
AH	Apprentice Hunt & Trapp	\$ 19.00	630	\$ 11,970.00
AHJ**	Apprentice Junior Hunt & Trapp	\$ 11.00	887	\$ 9,757.00
B	Fishing	\$ 19.00	17,304	\$ 328,776.00
L	5-Day Fishing	\$ 8.00	482	\$ 3,856.00
N	Antlerless Deer Hunting	\$ 10.00	21,928	\$ 219,280.00
BG	Big Game	\$ 10.00	1,699	\$ 16,990.00
RG	Additional Deer - Firearms	\$ 21.00	6,903	\$ 144,963.00
RB	Additional Deer - Archery	\$ 21.00	5,893	\$ 123,753.00
RM	Additional Deer - Muzzleloader	\$ 16.00	713	\$ 11,408.00
X*	Sportsman Hunting/Trapping/Fishing	\$ 30.00	29,714	\$ 891,420.00
XJ**	Junior Sportsman Hunting/Trapping/Fishing	\$ 11.00	1,975	\$ 21,725.00
A-1	Small Arms Hunting	\$ 8.00	2,102	\$ 16,816.00
DS	Bear Damage Stamp	\$ 10.00	9,215	\$ 92,150.00
O	Trout Fishing	\$ 10.00	25,210	\$ 252,100.00
CS***	Conservation Stamp	\$ 5.00	54,433	\$ 272,165.00
<b>Resident Subtotal</b>			<b>183,938</b>	<b>\$ 2,509,279.00</b>

\*The listed price of X (\$30) does not include the price of the CS (\$5). Total price of X is \$35.

\*\*The listed price of XJ & AHJ (\$11) does not include the price of the CS (\$5). Total price of XJ & AHJ is \$16.

\*\*\*CS includes the CS stamps sold on X, XJ and AHJ licenses.



**NON-RESIDENT**

Class	Description	Price	Number	Amount
I	National Forest Hunting/Trapping/Fishing	\$ 2.00	8,356	\$ 16,712.00
E	Non-resident Hunting/Trapping	\$119.00	14,079	\$ 1,675,401.00
EE	Non-resident Bear Hunting	\$162.00	1,083	\$ 175,446.00
AAH	Non-resident Apprentice Hunt & Trapp	\$119.00	428	\$ 50,932.00
AAHJ	Non-resident Apprentice Junior Hunt & Trapp	\$ 16.00	503	\$ 8,048.00
F	Non-resident Fishing	\$ 37.00	5,792	\$ 214,304.00
H	Non-resident Small Game Hunting - 6 day	\$ 27.00	538	\$ 14,526.00
LL	Non-resident Fishing - 1 day	\$ 3.00	16,367	\$ 49,101.00
NN	Non-resident Antlerless Deer	\$ 27.00	8,572	\$ 231,444.00
RRG	Non-resident Additional Deer - Firearms	\$ 43.00	2,377	\$ 102,211.00
RRB	Non-resident Additional Deer - Archery	\$ 37.00	1,546	\$ 57,202.00
RRM	Non-resident Additional Deer - Muzzleloader	\$ 37.00	126	\$ 4,662.00
UU	Non-resident Archery Deer	\$ 32.00	4,387	\$ 140,384.00
VV	Non-resident Muzzleloader Deer	\$ 32.00	957	\$ 30,624.00
WW	Non-resident Turkey	\$ 32.00	2,259	\$ 72,288.00
XXJ	Non-resident Junior Sportsman	\$ 16.00	1,211	\$ 19,376.00
A-1	Small Arms Hunting	\$ 8.00	587	\$ 4,696.00
DS-EE	Bear Damage Stamp	\$ 10.00	1,041	\$ 10,410.00
OO	Trout Fishing	\$ 16.00	6,692	\$ 107,072.00
J	Small Game Shooting Preserve Hunting - 6 day	\$ 10.00	1,022	\$ 10,220.00
CS/LE	Non-resident Conservation / Law Enforcement	\$ 13.00	28,527	\$ 370,851.00
<b>Non-resident Subtotal</b>			<b>106,450</b>	<b>\$3,365,910.00</b>

<b>Grand Total Resident + Non-resident Sales</b>	<b>290,388</b>	<b>\$5,875,189.00</b>
--	----------------	-----------------------

## Hunting and Fishing License Sales By Residency and Class—Calendar Year 2016

### APS LICENSE SALES

<b>RESIDENT</b>				
<b>Class</b>	<b>Description</b>	<b>Price</b>	<b>Number</b>	<b>Amount</b>
A	Hunting and Trapping	\$ 19.00	13,805	\$ 262,295.00
B	Fishing	\$ 19.00	63,630	\$1,208,970.00
L	5-Day Fishing	\$ 8.00	617	\$ 4,936.00
N	Antlerless Deer Hunting	\$ 10.00	41,805	\$ 418,050.00
BG	Big Game	\$ 10.00	3,157	\$ 31,570.00
RG	Additional Deer - Firearms	\$ 21.00	13,989	\$ 293,769.00
RB	Additional Deer - Archery	\$ 21.00	10,133	\$ 212,793.00
RM	Additional Deer - Muzzleloader	\$ 16.00	704	\$ 11,264.00
X*	Sportsman Hunting/Trapping/Fishing	\$ 30.00	64,814	\$1,944,420.00
XJ**	Junior Sportsman Hunting/Trapping/Fishing	\$ 11.00	5,310	\$ 58,410.00
A-1	Small Arms Hunting	\$ 8.00	4,337	\$ 34,696.00
DS	Bear Damage Stamp	\$ 10.00	14,974	\$ 149,740.00
O	Trout Fishing	\$ 10.00	71,815	\$ 718,150.00
CS***	Conservation Stamp	\$ 5.00	144,518	\$ 722,590.00
<b>Resident Subtotal</b>			<b>453,608</b>	<b>\$6,071,653.00</b>

\*The listed price of X (\$30) does not include the price of the CS (\$5). Total price of X is \$35.

\*\*The listed price of XJ & AHJ (\$11) does not include the price of the CS (\$5). Total price of XJ & AHJ is \$16.

\*\*\*CS includes the CS stamps sold on X, XJ and AHJ licenses.

<b>NON-RESIDENT</b>				
<b>Class</b>	<b>Description</b>	<b>Price</b>	<b>Number</b>	<b>Amount</b>
I	National Forest Hunting/Trapping/Fishing	\$ 2.00	8,577	\$ 17,154.00
E	Non-resident Hunting/Trapping	\$119.00	11,506	\$ 1,369,214.00
EE	Non-resident Bear Hunting	\$162.00	584	\$ 94,608.00
F	Non-resident Fishing	\$ 37.00	7,180	\$ 265,660.00
H	Non-resident Small Game Hunting - 6 day	\$ 27.00	306	\$ 8,262.00
LL	Non-resident Fishing - 1 day	\$ 3.00	27,492	\$ 82,476.00
NN	Non-resident Antlerless Deer	\$ 27.00	6,462	\$ 174,474.00
RRG	Non-resident Additional Deer - Firearms	\$ 43.00	1,966	\$ 84,538.00
RRB	Non-resident Additional Deer - Archery	\$ 37.00	449	\$ 16,613.00
RRM	Non-resident Additional Deer - Muzzleloader	\$ 37.00	53	\$ 1,961.00
UU	Non-resident Archery Deer	\$ 32.00	2,559	\$ 81,888.00
VV	Non-resident Muzzleloader Deer	\$ 32.00	619	\$ 19,808.00
WW	Non-resident Turkey	\$ 32.00	1,441	\$ 46,112.00
XXJ	Non-resident Junior Sportsman	\$ 16.00	816	\$ 13,056.00
A-1	Small Arms Hunting	\$ 8.00	277	\$ 2,216.00
DS-EE	Bear Damage Stamp	\$ 10.00	579	\$ 5,790.00
OO	Trout Fishing	\$ 16.00	8,512	\$ 136,192.00
J	Small Game Shooting Preserve Hunting - 6 day	\$ 10.00	31	\$ 310.00
CS/LE	Non-resident Conservation / Law Enforcement	\$ 13.00	29,504	\$ 383,552.00
<b>Non-resident Subtotal</b>			<b>108,913</b>	<b>\$2,803,884.00</b>

<b>Grand Total Resident + Non-resident Sales</b>		<b>562,521</b>	<b>\$8,875,537.00</b>
--	--	----------------	-----------------------

**Hunting and Fishing License Sales By Class — Calendar Year 2016**  
**Lifetime License Sales**

<b>ADULT</b>				
Class	Description	Price	Number	Amount
<b>Adult</b>				
A-L	Hunting and Trapping	\$ 782.00	-	\$ -
AB-L	Hunting, Trapping, and Fishing	\$ 805.00	229	\$ 184,345.00
A-1-L	Small Arms Hunting	\$ 75.00	34	\$ 2,550.00
B-L	Fishing	\$ 552.00	21	\$ 11,592.00
O-L	Trout	\$ 230.00	93	\$ 21,390.00
<b>Adult Subtotal</b>			<b>377</b>	<b>\$ 219,877.00</b>

<b>INFANT</b>				
Class	Description	Price	Number	Amount
<b>Infant</b>				
A-L-I	Hunting and Trapping	\$ 391.00	1	\$ 391.00
AB-L-I	Hunting, Trapping, and Fishing	\$ 402.50	1,001	\$ 402,902.50
B-L-I	Fishing	\$ 276.00	20	\$ 5,520.00
O-L-I	Trout	\$ 115.00	402	\$ 46,230.00
<b>Infant Subtotal</b>			<b>1,424</b>	<b>\$ 455,043.50</b>

<b>SENIOR</b>				
Class	Description	Price	Number	Amount
<b>Senior</b>				
XS	Hunting and Trapping	\$ 25.00	5,833	\$ 145,825.00
<b>Senior Subtotal</b>			<b>5,833</b>	<b>\$ 145,825.00</b>

<b>Grand Total Lifetime Sales</b>			<b>7,634</b>	<b>\$ 820,745.50</b>
-----------------------------------	--	--	--------------	----------------------

## **BUDGET**

---

The Budget Office prepares all appropriation requests for the Agency, develops expenditure schedules and amendments to the fiscal year budget, and monitors all budgeting processes. The Chief Budget Officer manages the automated clearing house payment system for federal programs and serves as a liaison for negotiation and preparing the Division's indirect cost allocation plan. This unit has a staff of two who coordinate and process all legislative fiscal notes. This fiscal year, the unit processed 575 amendments to the budget, 32 federal drawdowns for Wildlife Resources, 13 federal drawdowns for Law Enforcement and eight spending authority adjustments.

## **FISCAL SERVICES**

---

The Fiscal Services unit handles all the payment and revenue processes for the entire Agency. The unit is composed of four subunits: accounts payable, accounts receivable, P-Card management and financial reporting. The office enhanced its ability to serve other sections of the Agency by reorganizing its structure. The unit now has a dedicated position of Purchasing Card Coordinator to oversee all aspects of the P-Card program as well as a position to oversee revenue and accounts receivable. The unit also includes an audit component that performs division audits for all agency sections. This reporting period, Fiscal Services processed 36,130 purchasing card transactions, 20,423 invoices, 125 out-of-state travel authorization requests, and 1,421 travel reimbursements. The Fiscal Services unit consists of 13 staff positions.

## **STATEMENT OF DISBURSEMENTS**

---

The following report is limited to a presentation of the fiscal operations of the West Virginia Division of Natural Resources for the year ending June 30, 2017. Itemization of summarized financial data contained in this report is public and on file.

# Statement of Disbursements

## ADMINISTRATION SECTION

### EXECUTIVE/ADMINISTRATIVE

Personnel Services	\$	384,591.14
Employee Benefits		102,680.41
Current Expenses		318,853.82
Repairs & Alterations		2,890.33
Equipment		3,398.80
Fund Transfer		0.00
<b>TOTAL</b>	<b>\$</b>	<b>812,414.50</b>

### FISCAL SERVICES

Personnel Services	\$	616,651.59
Employee Benefits		238,824.82
Current Expenses		698,460.45
Repairs & Alterations		237.87
PEIA Transfer		15,482.55
<b>TOTAL</b>	<b>\$</b>	<b>1,569,657.28</b>

### STAFFING/PAYROLL

Personnel Services	\$	368,238.16
Employee Benefits		145,638.10
Current Expenses		20,715.09
<b>TOTAL</b>	<b>\$</b>	<b>534,591.35</b>

### GENERAL SERVICES

Personnel Services	\$	316,388.47
Employee Benefits		132,612.58
Current Expenses		285,819.78
Repairs & Alterations		44,788.64
Equipment		3,764.20
Land Improvements		2,981.34
<b>TOTAL</b>	<b>\$</b>	<b>786,355.01</b>

### WONDERFUL WEST VIRGINIA MAGAZINE

Personnel Services	\$	22,356.87
Employee Benefits		16,060.05
Current Expenses		391,189.67
<b>TOTAL</b>	<b>\$</b>	<b>429,606.59</b>

General Revenue Appropriated	\$	2,612,326.34
Special Revenue Non-Appropriated		433,289.63
Special Revenue Appropriated		1,021,829.48
Federal Revenue Appropriated		65,179.28
<b>TOTAL ADMINISTRATION</b>	<b>\$</b>	<b>4,132,624.73</b>

## LAW ENFORCEMENT SECTION

### LAW ENFORCEMENT

Personnel Services	\$ 5,651,947.36
Employee Benefits	2,316,479.23
Current Expenses	1,605,161.21
Repairs & Alterations	120,749.48
Equipment	320,999.87
PEIA Transfer	16,451.97
Medical Service Payments	2,267.00
<b>TOTAL</b>	<b>\$ 10,034,056.12</b>

General Revenue Appropriated	\$ 2,758,787.28
Special Revenue Non-Appropriated	1,127,469.11
Special Revenue Appropriated	5,182,153.40
Federal Revenue Appropriated	965,646.33
<b>TOTAL LAW ENFORCEMENT</b>	<b>\$ 10,034,056.12</b>

## WILDLIFE RESOURCES SECTION

### GAME MANAGEMENT

Personnel Services	\$ 2,775,153.20
Employee Benefits	1,196,139.06
Current Expenses	1,892,283.14
Repairs & Alterations	355,634.02
Equipment	449,735.95
Building Improvements	4,967.00
PEIA Transfer	393.66
Consultant Pmts for Capital Asset Proj	0.00
Land Improvements	2,393.17
Land Purchases	7,737,620.00
<b>TOTAL</b>	<b>\$ 14,414,319.20</b>

### CAPITAL IMPROVEMENTS

Personnel Services	\$ 220,602.92
Employee Benefits	32,890.01
Current Expenses	536,857.90
Repairs & Alterations	86,042.73
Equipment	0.00
Building Improvements	69,813.00
Land Improvements	209,968.15
Land Purchases	1,748,320.00
Contractor Pmts for Capital Asset Proj	1,584,135.04
Consultant Pmts for Capital Asset Proj	178,867.16
<b>TOTAL</b>	<b>\$ 4,667,496.91</b>

# Statement of Disbursements

## COLD WATER FISH MANAGEMENT

Personnel Services	\$ 1,095,327.08
Employee Benefits	509,944.38
Current Expenses	1,119,025.28
Repairs & Alterations	115,944.09
Equipment	619,438.00
<b>TOTAL</b>	<b>\$ 3,459,678.83</b>

## WILDLIFE - ADMINISTRATION

Personnel Services	\$ 554,011.77
Employee Benefits	230,738.10
Current Expenses	1,588,401.09
Repairs & Alterations	1,080.86
Equipment	725.20
Building Improvements	14,194.00
Land Purchases	224,075.00
Contractor Pmts for Capital Asset Proj	2,560,797.83
Consultant Pmts for Capital Asset Proj	233,072.50
<b>TOTAL</b>	<b>\$ 5,407,096.35</b>

## WARM WATER FISH MANAGEMENT

Personnel Services	\$ 1,039,427.00
Employee Benefits	431,838.23
Current Expenses	527,006.91
Repairs & Alterations	70,917.78
Equipment	161,893.50
Building Improvements	5,787.89
Land Improvements	11,670.54
<b>TOTAL</b>	<b>\$ 2,248,541.85</b>

## TECHNICAL SUPPORT

Personnel Services	\$ 445,479.85
Employee Benefits	202,775.01
Current Expenses	253,216.95
Repairs & Alterations	3,093.00
<b>TOTAL</b>	<b>\$ 904,564.81</b>

## SPECIAL PROJECTS

Personnel Services	\$ 377,663.03
Employee Benefits	110,624.78
Current Expenses	113,467.37
Repairs & Alterations	6,454.58
Equipment	27,469.00
<b>TOTAL</b>	<b>\$ 635,678.76</b>



**WILDLIFE DIVERSITY**

Personnel Services	\$	821,333.72
Employee Benefits		307,963.77
Current Expenses		423,328.16
Repairs & Alterations		2,694.14
Equipment		4,369.14
PEIA Transfer		1,386.00
<b>TOTAL</b>	<b>\$</b>	<b>1,561,074.93</b>

**HUNTING & FISHING LICENSE UNIT**

Personnel Services	\$	147,297.93
Employee Benefits		55,727.50
Current Expenses		246,995.54
<b>TOTAL</b>	<b>\$</b>	<b>450,020.97</b>

**ELKINS OPERATIONS CENTER**

Personnel Services	\$	90,311.24
Employee Benefits		59,925.08
Current Expenses		112,572.06
Repairs & Alterations		13,058.98
<b>TOTAL</b>	<b>\$</b>	<b>275,867.36</b>

**WEST VIRGINIA WILDLIFE CENTER**

Personnel Services	\$	220,085.10
Employee Benefits		67,893.09
Current Expenses		57,883.51
Repairs & Alterations		22,113.84
Equipment		963.80
Building Improvements		1,210.73
<b>TOTAL</b>	<b>\$</b>	<b>370,150.07</b>

General Revenue Appropriated	\$	151,534.68
Special Revenue Non-Appropriated		10,775,504.14
Special Revenue Appropriated		6,546,653.91
Federal Revenue Appropriated		16,920,797.31
<b>TOTAL WILDLIFE RESOURCES</b>	<b>\$</b>	<b>34,394,490.04</b>

**PARKS & RECREATION SECTION****PARKS & RECREATION**

Personnel Services	\$ 16,851,066.09
Employee Benefits	6,119,008.31
Current Expenses	13,477,969.15
Repairs & Alterations	2,238,139.88
Equipment	825,839.19
PEIA Transfer	91,788.50
Medical Service Payments	1,950.00
Building Improvements	5.09
Contractor Pmts for Capital Asset Proj	3,509,496.81
Consultant Pmts for Capital Asset Proj	611,053.26
<b>TOTAL</b>	<b>\$ 43,726,316.28</b>

General Revenue Appropriated	\$ 13,372,309.95
Special Revenue Non-Appropriated	21,026,742.25
Special Revenue Appropriated	9,327,264.08
Federal Revenue Appropriated	0.00
<b>TOTAL PARKS &amp; RECREATION</b>	<b>\$ 43,726,316.28</b>

**SPECIAL PROGRAMS & SERVICES SECTION****OFFICE OF LAND & STREAMS**

Personnel Services	\$ 196,176.78
Employee Benefits	68,847.94
Current Expenses	325,443.43
Repairs & Alterations	25,438.52
Equipment	25,959.60
PEIA Transfer	1,302.67
Fund Transfer	1,000,000.00
Contractor Pmts for Capital Asset Proj	26,000.00
Consultant Pmts for Capital Asset Proj	938,422.75
Land Purchases	385,000.00
<b>TOTAL</b>	<b>\$ 2,992,591.69</b>

Special Revenue Non-Appropriated	\$ 109,933.07
Special Revenue Appropriated	2,882,658.62
<b>TOTAL SPECIAL PROGRAMS &amp; SERVICES</b>	<b>\$ 2,992,591.69</b>

Grand Total General Revenue Appropriated	\$ 18,894,958.25
Grand Total Special Revenue Non-Appropriated	33,472,938.20
Grand Total Special Revenue Appropriated	24,960,559.49
Grand Total Federal Revenue Appropriated	17,951,622.92

<b>GRAND TOTAL DISBURSEMENTS</b>	<b>\$ 95,280,078.86</b>
----------------------------------	-------------------------

# Statement of Revenues/Disbursements

## COMBINING STATEMENT OF REVENUES, DISBURSEMENTS AND CHANGES IN CASH BALANCES FISCAL YEAR 2016-2017

### APPROPRIATED FUNDS

#### GENERAL FUND (0265)

Appropriated Fund - No Cash Balance

#### DISBURSEMENTS

Personnel Services	(12,687,808.06)	
Employee Benefits	(4,832,011.47)	
Current Expenses	(571,572.35)	
Repairs and Alterations	(6,094.72)	
Equipment	(5,260.17)	
Contractor Pmts for Capital Asset Proj	(68,924.60)	
Consultant Pmts for Capital Asset Proj	(5,071.00)	
PEIA Reserve Transfer	(102,634.81)	
WV OPEB Contribution	(615,581.07)	
<b>TOTAL DISBURSEMENTS</b>		(18,894,958.25)

#### SPECIAL REVENUE LICENSE FUND (3200)

Cash Balance July 1, 2016	857,279.04
Investment Balance July 1, 2016	7,855,082.38
Beginning Fund Balance	8,712,361.42

#### RECEIPTS

Animal Replacement Costs	35,333.72	
Contract Reimbursement	3,158.31	
Hunting & Fishing Licenses and Stamps	11,475,974.00	
Investment Earnings	58,798.39	
Lifetime Senior Licenses	0.00	
Miscellaneous Permits and Licenses	5,800.00	
Miscellaneous Collections	12,270.90	
Surplus Property Sale	99,900.00	
<b>TOTAL RECEIPTS</b>		11,691,235.32

#### DISBURSEMENTS

Personnel Services	(4,712,536.98)	
Employee Benefits	(1,991,979.09)	
Current Expenses	(3,599,832.44)	
Repairs and Alterations	(395,891.54)	
Equipment	(293,876.52)	
Medical Service Payments	(2,267.00)	
Building Improvements	(5,992.89)	
Land Improvements	(14,651.88)	
Bank Costs	(738.05)	
2016 Capital Improvements	(898,598.25)	
WV OPEB Contribution	(238,123.26)	
<b>LESS TOTAL DISBURSEMENTS</b>		(12,154,487.90)

Ending Fund Balance	8,249,108.84
Less - Investment Balance June 30, 2017	(7,556,756.77)
<b>CASH BALANCE JUNE 30, 2017</b>	692,352.07

# Statement of Revenues/Disbursements

## GAME, FISH AND AQUATIC LIFE FUND (3202)

Cash Balance July 1, 2016		38,623.72
Investment Balance July 1, 2016		534,882.12
Beginning Fund Balance		573,505.84
<b>RECEIPTS</b>		
Investment Earnings	4,134.85	
<b>PLUS TOTAL RECEIPTS</b>		4,134.85
<b>DISBURSEMENTS</b>		
Current Expense	(10,743.70)	
<b>LESS TOTAL DISBURSEMENTS</b>		(10,743.70)
Ending Fund Balance		566,896.99
Less - Investment Balance June 30, 2017		(554,016.97)
<b>CASH BALANCE JUNE 30, 2017</b>		12,880.02

## WILDLIFE DIVERSITY FUND (3203)

Cash Balance July 1, 2016		82,473.80
Investment Balance July 1, 2016		906,104.82
Beginning Fund Balance		988,578.62
<b>RECEIPTS</b>		
Investment Earnings	8,284.62	
Miscellaneous Collections	130.40	
Sale of Booklets	3,058.29	
Sale of Wildlife Calendars	120,658.01	
Sale of Wildlife License Plates	394,865.54	
Special Events	3,858.60	
Surplus Property Sale	2,432.50	
Wetland Study Program	4,050.00	
<b>PLUS TOTAL RECEIPTS</b>		537,337.96
<b>DISBURSEMENTS</b>		
Personnel Services	(81,038.66)	
Employee Benefits	(12,755.97)	
Current Expenses	(43,272.18)	
Bank Costs	(773.35)	
<b>LESS TOTAL DISBURSEMENTS</b>		(137,840.16)
Ending Fund Balance		1,388,076.42
Less - Investment Balance June 30, 2017		(1,264,389.44)
<b>CASH BALANCE JUNE 30, 2017</b>		123,686.98

**USE & DEVELOPMENT FUND - PUBLIC LAND CORPORATION (3205)**

Cash Balance July 1, 2016 6,566,468.29

**RECEIPTS**

Channel Changes	1,600.00	
DEP Contribution for Spring Run Land Purchase	87,000.00	
Docking Facilities	11,600.00	
Low Water Fords	30,000.00	
Low Water Level Bridges	138,400.00	
Miscellaneous Collections	8,103.89	
Permits	53,800.00	
Pipeline Permits	707,202.88	
Right of Way	68,850.00	
Sand/Gravel ATE Management	5,500.00	
Sand and Gravel Royalties	73,242.00	
Stream Restoration	40,600.00	
Structures	448,145.45	
Subterranean Cable Permit Renewal	30,750.00	
Water Intake Supply System	14,100.00	
<b>PLUS TOTAL RECEIPTS</b>		<b>1,718,894.22</b>

**DISBURSEMENTS**

Personnel Services	(74,198.92)	
Employee Benefits	(20,772.98)	
Current Expenses	(309,701.84)	
Repairs and Alterations	(10,787.50)	
Equipment	(25,959.60)	
PEIA Reserve Transfer	(749.11)	
Bank Costs	(1,937.86)	
WV OPEB Contribution	(1,914.24)	
Contractor Pmts for Capital Asset Proj	(26,000.00)	
Consultant Pmts for Capital Asset Proj	(938,422.75)	
Land Purchases	(385,000.00)	
Transfer to Medical Services Trust Fund	(1,000,000.00)	
<b>LESS TOTAL DISBURSEMENTS</b>		<b>(2,795,444.80)</b>

**CASH BALANCE JUNE 30, 2017** 5,489,917.71

# Statement of Revenues/Disbursements

## WHITWATER STUDY AND IMPROVEMENT FUND (3253)

Cash Balance July 1, 2016		22,976.49
Investment Balance July 1, 2016		66,385.67
Beginning Fund Balance		89,362.16
<b>RECEIPTS</b>		
Investment Earnings	738.90	
Miscellaneous Collections	12,692.00	
Study and Improvement Fees	32,660.55	
Whitewater Stocking Study Fee-Gauley River	7,241.50	
<b>PLUS TOTAL RECEIPTS</b>		<b>53,332.95</b>
<b>DISBURSEMENTS</b>		
Personnel Services	(21,643.08)	
Employee Benefits	(10,073.60)	
Current Expenses	(9,568.25)	
PEIA Reserve Transfer	(225.00)	
WV OPEB Contribution	(1,352.79)	
<b>LESS TOTAL DISBURSEMENTS</b>		<b>(42,862.72)</b>
Ending Fund Balance		99,832.39
Less - Investment Balance June 30, 2017		(94,124.57)
<b>CASH BALANCE JUNE 30, 2017</b>		<b>5,707.82</b>

## DIVISION OF NATURAL RESOURCES LOTTERY FUND (3267)

Cash Balance July 1, 2016		1,977,360.84
<b>RECEIPTS</b>		
Lottery Transfers	3,095,713.00	
Highways Right of Ways Purchase	119,227.30	
Miscellaneous Collections	200.76	
Surplus Property Sale	568.00	
<b>PLUS TOTAL RECEIPTS</b>		<b>3,215,709.06</b>
<b>DISBURSEMENTS</b>		
Personnel Services	(1,722,025.18)	
Employee Benefits	(516,315.31)	
Current Expenses	(746,359.97)	
Repairs and Alterations	(1,769.65)	
Equipment	(4,369.14)	
PEIA Reserve Transfer	(11,582.41)	
Contractor Pmts for Capital Asset Proj	(9,500.00)	
WV OPEB Contribution	(75,254.73)	
<b>LESS TOTAL DISBURSEMENTS</b>		<b>(3,087,176.39)</b>
<b>CASH BALANCE JUNE 30, 2017</b>		<b>2,105,893.51</b>

**STATE PARK IMPROVEMENT FUND (3277)**

Cash Balance July 1, 2016		10,461,821.11
Beginning Fund Balance		
<b>RECEIPTS</b>		
Lottery Transfers	5,000,000.00	
Insurance Payment Island Belle Damage	22,447.31	
Disaster Reimbursement	17,674.20	
Surplus Property Sale	15,582.50	
<b>PLUS TOTAL RECEIPTS</b>		5,055,704.01
<b>DISBURSEMENTS</b>		
Current Expenses	(762,211.09)	
Repairs and Alterations	(2,147,789.05)	
Equipment	(823,641.80)	
Contractor Pmts for Capital Asset Proj	(2,810,910.11)	
Consultant Pmts for Capital Asset Proj	(187,451.77)	
<b>LESS TOTAL DISBURSEMENTS</b>		(6,732,003.82)
<b>CASH BALANCE JUNE 30, 2017</b>		8,785,521.30

**CONSOLIDATED FEDERAL FUND (8707)**

Cash Balance July 1, 2016		961,576.50
Investment Balance July 1, 2016		8,565,901.17
Beginning Fund Balance		9,527,477.67
<b>RECEIPTS</b>		
<b>Law Enforcement</b>		
Boating Safety	510,500.00	
Duplicate Boat Safety Cards	130.00	
Hunter Safety Replacement Cards	11,052.00	
Hunter Safety	413,879.12	
Port Security Grant FEMA Law Enforcement	136,598.00	1,072,159.12
<b>Wildlife Resources</b>		
Acid Water Studies	206,567.47	
Archery Education in Schools	21,473.99	
Biometrics	427,875.00	
Boating Access Administration	480,851.00	
Boating Access Grant	3,709.40	
Cheat Mountain Salamander Project	10,000.00	
Commercial Navigable Rivers	28,815.95	
District Wildlife Management	2,993,170.95	
Endangered Species	143,794.57	
Enhancing Fishery Opportunity Program	134,239.98	
Environmental Data Collection	194,055.25	
Fish & Wildlife Coordination	216,913.48	
Fish Population and Association Study	7,107.76	
Interagency Coordination	383,358.07	
Investment Earnings	83,999.07	
Land Purchase	6,000,000.00	
Mill Creek Tygart River Fish Study	49,000.00	
Miscellaneous	256.28	
National Park Service Vegetation Mapping	8,330.03	

# Statement of Revenues/Disbursements

Reservoir Investigations	7,466.24	
Rivers and Streams Assessment	15,035.62	
Small Impoundment Assessment	8,116.16	
State Wildlife Grant	705,806.51	
Surplus Property Sale	5,450.00	
Trout Hatchery Operations	3,247,947.09	
USDP AG NRCS Wildlife Hbt Inc	18,312.25	
Warmwater Fish Hatcheries Grant	305,109.94	
Wetlands Development Grant	157,676.07	
Wildlife Research	1,582,300.22	17,446,738.35
<b>Parks</b>		
Cass Club House National Park Service	0.00	0.00
<b>PLUS TOTAL RECEIPTS</b>		<b>18,518,897.47</b>
<b>DISBURSEMENTS</b>		
Personnel Services	(4,017,263.06)	
Employee Benefits	(1,275,333.57)	
Current Expenses	(3,716,899.96)	
Repairs and Alterations	(175,390.05)	
Equipment	(1,138,127.71)	
Contractor Pmts for Capital Asset Proj	(1,462,324.45)	
Consultant Pmts for Capital Asset Proj	(21,500.00)	
Land Improvements	(2,100.00)	
Land Purchases	(6,000,000.00)	
WV OPEB Contribution	(142,684.12)	
<b>LESS TOTAL DISBURSEMENTS</b>		<b>(17,951,622.92)</b>
Ending Fund Balance		10,094,752.22
Less - Investment Balance June 30, 2017		(9,149,900.24)
<b>CASH BALANCE JUNE 30, 2017</b>		<b>944,851.98</b>

## NON-APPROPRIATED FUNDS

### LAW ENFORCEMENT PROGRAM FUND (3204)

Cash Balance July 1, 2016		203,653.47
Investment Balance July 1, 2016		3,908,164.92
Beginning Fund Balance		4,111,818.39
<b>RECEIPTS</b>		
Boating Under Influence Grant	10,000.00	
Ginsing Confiscation	20,677.50	
Hatfield McCoy Trail Patrol Reimbursement	201,763.47	
Equipment Reimbursement	22,376.82	
Investment Earnings	31,339.30	
License Reinstatement Fee	1,800.00	
Miscellaneous Collections	12,781.04	
Miscellaneous Permits	3,300.00	
Motorboat Licenses	721,892.00	
Surplus Property Sale	2,475.00	
Tipping Fees	483,993.64	
Whitewater Rafting Licenses	32,250.00	
<b>PLUS TOTAL RECEIPTS</b>		<b>1,544,648.77</b>



**DISBURSEMENTS**

Personnel Services	(479,049.12)	
Employee Benefits	(167,790.24)	
Current Expenses	(30,616.05)	
Repairs and Alterations	(2,461.42)	
WV OPEB Contribution	(23,395.95)	
<b>LESS TOTAL DISBURSEMENTS</b>		<b>(703,312.78)</b>
Ending Fund Balance		4,953,154.38
Less - Investment Balance June 30, 2017		(4,634,504.21)
<b>CASH BALANCE JUNE 30, 2017</b>		<b>318,650.17</b>

**LAW ENFORCEMENT CONTRACTS (3208)**

Cash Balance July 1, 2016		11,758.53
<b>RECEIPTS</b>		
Hinton Boat Race Patrol	0.00	
<b>PLUS TOTAL RECEIPTS</b>		<b>0.00</b>
<b>DISBURSEMENTS</b>		
Current Expenses	(4,904.88)	
<b>LESS TOTAL DISBURSEMENTS</b>		<b>(4,904.88)</b>
<b>CASH BALANCE JUNE 30, 2017</b>		<b>6,853.65</b>

**WILDLIFE ENDOWMENT FUND (3224)**

Cash Balance July 1, 2016		20,326.50
Investment Balance July 1, 2016		54,342,834.95
Beginning Fund Balance		54,363,161.45
<b>RECEIPTS</b>		
Investment Earnings	8,295,629.16	
Lifetime Hunting & Fishing Licenses	588,554.50	
<b>PLUS TOTAL RECEIPTS</b>		<b>8,884,183.66</b>
<b>DISBURSEMENTS</b>		
Current Expenses	(15.00)	
<b>LESS TOTAL DISBURSEMENTS</b>		<b>(15.00)</b>
Ending Fund Balance		63,247,330.11
Less - Investment Balance June 30, 2017		(63,242,339.11)
<b>CASH BALANCE JUNE 30, 2017</b>		<b>4,991.00</b>

# Statement of Revenues/Disbursements

## WILDLIFE RESOURCES-RECREATION FUND (3227)

Cash Balance July 1, 2016		478,727.06
Investment Balance July 1, 2016		25,577,019.82
Beginning Fund Balance		26,055,746.88
<b>RECEIPTS</b>		
Campsite Rentals	10,699.09	
Coal Royalties	22.60	
Entrance Fees	81,588.73	
Fish Promotion and Research	112,881.65	
Gas Royalties	944,372.79	
Gift Shop Sales	5,682.86	
Gifts & Bequests	24,683.59	
Gifts, Grants & Donations	61,605.00	
Go-Wild Hunting & Fishing License Issuance Fee	229,544.00	
Habitat Land Inquiries	9,600.00	
Hunters Helping the Hungry	34,023.00	
Information Retrieval	25,500.00	
Investment Earnings	181,583.76	
Leases	14,200.00	
Miscellaneous Collections	4,076.30	
Oil Royalties	55,531.99	
Picnic Shelter Fees	1,485.90	
Real Estate License Fees	163,290.95	
Residence Rentals	125.00	
Rocky Mountain Elk Foundation Donation	41,461.20	
Royalty Payment Marcellus Gas Drilling	1,169,206.96	
Scientific Collection Permit	39,275.00	
Surface Damages	566,640.17	
Timber Sales	592,681.08	
Trophy Fish Citations	1,260.00	
Wildlife Cooperative Agreements	11,306.03	
Wildlife Special Events	5,636.55	
<b>PLUS TOTAL RECEIPTS</b>		<b>4,387,964.20</b>
<b>DISBURSEMENTS</b>		
Personnel Services	(625,810.65)	
Employee Benefits	(182,084.70)	
Current Expenses	(603,039.40)	
Repairs and Alterations	(149,185.19)	
Equipment	(128,915.09)	
Bank Costs	(138,178.73)	
Contractor Pmts for Capital Asset Proj	(2,560,797.83)	
Consultant Pmts for Capital Asset Proj	(233,072.50)	
Land Purchases	(3,161,695.00)	
Building Improvements	(15,199.73)	
WV OPEB Contribution	(19,361.39)	
<b>LESS TOTAL DISBURSEMENTS</b>		<b>(7,817,340.21)</b>
Ending Fund Balance		22,626,370.87
Less - Investment Balance June 30, 2017		(22,416,865.88)
<b>CASH BALANCE JUNE 30, 2017</b>		<b>209,504.99</b>

**BEAR DAMAGE FUND (3228)**

Cash Balance July 1, 2016		33,489.09
Investment Balance July 1, 2016		291,496.42
Beginning Fund Balance		324,985.51
<b>RECEIPTS</b>		
Bear Damage Stamps	257,408.00	
Investment Earnings	2,507.47	
<b>PLUS TOTAL RECEIPTS</b>		259,915.47
<b>DISBURSEMENTS</b>		
Current Expenses	(3,390.40)	
Payment of Claims	(231,834.79)	
<b>LESS TOTAL DISBURSEMENTS</b>		(235,225.19)
Ending Fund Balance		349,675.79
Less - Investment Balance June 30, 2017		(334,003.89)
<b>CASH BALANCE JUNE 30, 2017</b>		15,671.90

**WILDLIFE RESOURCES CONTRACTS FUND (3229)**

Cash Balance July 1, 2016		98,188.55
Investment Balance July 1, 2016		637,197.80
Beginning Fund Balance		735,386.35
<b>RECEIPTS</b>		
Investment Earnings	4,711.68	
Mussell Study Fish and Wildlife Service	18,764.00	
Surplus Property Sale	3,000.00	
<b>PLUS TOTAL RECEIPTS</b>		26,475.68
<b>DISBURSEMENTS</b>		
Current Expenses	(110,452.25)	
Repairs and Alterations	(1,860.89)	
Equipment	(27,469.00)	
<b>LESS TOTAL DISBURSEMENTS</b>		(139,782.14)
Ending Fund Balance		622,079.89
Less - Investment Balance June 30, 2017		(441,909.48)
<b>CASH BALANCE JUNE 30, 2017</b>		180,170.41

**MIGRATORY WATERFOWL STAMP FUND (3231)**

Cash Balance July 1, 2016		97.34
Investment Balance July 1, 2016		29,471.96
Beginning Fund Balance		29,569.30
<b>RECEIPTS</b>		
Investment Earnings	73.44	
<b>PLUS TOTAL RECEIPTS</b>		73.44
<b>DISBURSEMENTS</b>		
Current Expenses	(2,717.23)	
Current Expenses	(22,015.51)	
Repairs and Alterations	(4,910.00)	
<b>LESS TOTAL DISBURSEMENTS</b>		(29,642.74)
Ending Fund Balance		0.00
Less - Investment Balance June 30, 2017		0.00
<b>CASH BALANCE JUNE 30, 2017</b>		0.00

# Statement of Revenues/Disbursements

## CONSERVATION STAMP FUND (3232)

Cash Balance July 1, 2016		105,983.97
Investment Balance July 1, 2016		3,444,142.92
Beginning Fund Balance		3,550,126.89
<b>RECEIPTS</b>		
Conservation Stamp Sales	1,310,644.00	
Investment Earnings	26,213.71	
<b>PLUS TOTAL RECEIPTS</b>		1,336,857.71
<b>DISBURSEMENTS</b>		
Personnel Services	(127,317.45)	
Employee Benefits	(15,913.68)	
Current Expenses	(346,477.19)	
Repairs and Alterations	(732.49)	
Land Purchases	(548,320.00)	
<b>LESS TOTAL DISBURSEMENTS</b>		(1,038,760.81)
Ending Fund Balance		3,848,223.79
Less - Investment Balance June 30, 2017		(3,640,356.63)
<b>CASH BALANCE JUNE 30, 2017</b>		207,867.16

## TROUT STAMP FUND (3233)

Cash Balance July 1, 2016		50,261.12
Investment Balance July 1, 2016		1,189,708.73
Beginning Fund Balance		1,239,969.85
<b>RECEIPTS</b>		
Investment Earnings	5,546.60	
Miscellaneous Collections	376.55	
Trout Stamp Sales	1,163,999.00	
<b>PLUS TOTAL RECEIPTS</b>		1,169,922.15
<b>DISBURSEMENTS</b>		
Personnel Services	(1,009,325.48)	
Employee Benefits	(437,700.86)	
Current Expenses	(11,556.85)	
WV OPEB Contribution	(59,590.42)	
<b>LESS TOTAL DISBURSEMENTS</b>		(1,518,173.61)
Ending Fund Balance		891,718.39
Less - Investment Balance June 30, 2017		(745,255.33)
<b>CASH BALANCE JUNE 30, 2017</b>		146,463.06

## GIFTS, GRANTS & BEQUESTS (3237)

Cash Balance July 1, 2016		56,074.80
<b>RECEIPTS</b>		
Special Events	55,206.77	
<b>PLUS TOTAL RECEIPTS</b>		55,206.77
<b>DISBURSEMENTS</b>		
Current Expenses	(48,793.09)	
<b>LESS TOTAL DISBURSEMENTS</b>		(48,793.09)
<b>CASH BALANCE JUNE 30, 2017</b>		62,488.48

**LAND MINERALS AND SPECIAL PROJECTS (3239)**

Cash Balance July 1, 2016		211,282.92
<b>RECEIPTS</b>		
Land Leases	23,668.80	
Real Estate Taxes	432.14	
Rental Leases	1,300.00	
Right-of-Way	30,187.00	
<b>PLUS TOTAL RECEIPTS</b>		<b>55,587.94</b>
<b>DISBURSEMENTS</b>		
Personnel Services	(57,347.37)	
Employee Benefits	(20,047.87)	
Current Expenses	(435.18)	
Repairs and Alterations	(14,651.02)	
WV OPEB Contribution	(3,972.02)	
Remittance of Taxes	(12,926.05)	
PEIA Reserve Transfer	(553.56)	
<b>LESS TOTAL DISBURSEMENTS</b>		<b>(109,933.07)</b>
<b>CASH BALANCE JUNE 30, 2017</b>		<b>156,937.79</b>

**PAYROLL CLEARING ACCOUNT (3245)**

Cash Balance July 1, 2016		6,451.10
<b>RECEIPTS</b>		
Miscellaneous Collections	5,616.70	
<b>PLUS TOTAL RECEIPTS</b>		<b>5,616.70</b>
<b>DISBURSEMENTS</b>		
Employee Benefits	0.00	
<b>LESS TOTAL DISBURSEMENTS</b>		<b>0.00</b>
<b>CASH BALANCE JUNE 30, 2017</b>		<b>12,067.80</b>

**LAW ENFORCEMENT AND SPORTS EDUCATION STAMPS (3247)**

Cash Balance July 1, 2016		40,194.78
Investment Balance July 1, 2016		395,325.67
Beginning Fund Balance		435,520.45
<b>RECEIPTS</b>		
Law Enforcement / Sports Ed. Stamps	377,257.00	
Investment Earnings	2,861.59	
<b>PLUS TOTAL RECEIPTS</b>		<b>380,118.59</b>
<b>DISBURSEMENTS</b>		
Personnel Services	(312,279.72)	
Employee Benefits	(97,539.16)	
Current Expenses	(1,488.53)	
WV OPEB Contribution	(7,944.04)	
<b>LESS TOTAL DISBURSEMENTS</b>		<b>(419,251.45)</b>
Ending Fund Balance		396,387.59
Less - Investment Balance June 30, 2017		(348,187.26)
<b>CASH BALANCE JUNE 30, 2017</b>		<b>48,200.33</b>

# Statement of Revenues/Disbursements

## MAGAZINE SALES & SUBSCRIPTIONS (3248)

Cash Balance July 1, 2016		45,094.17
Investment Balance July 1, 2016		534,722.64
Beginning Fund Balance		579,816.81
<b>RECEIPTS</b>		
Investment Earnings	4,363.11	
Magazine Sponsorship	18,755.00	
Magazine Bookshelf Sales	3,001.54	
Magazine Sales	29,966.25	
Magazine Subscriptions	375,411.00	
Miscellaneous Collections	664.00	
<b>PLUS TOTAL RECEIPTS</b>		<b>432,160.90</b>
<b>DISBURSEMENTS</b>		
Current Expenses	(381,404.53)	
Bank Costs	(1,818.16)	
<b>LESS TOTAL DISBURSEMENTS</b>		<b>(383,222.69)</b>
Ending Fund Balance		628,755.02
Less - Investment Balance June 30, 2017		(571,085.75)
<b>CASH BALANCE JUNE 30, 2017</b>		<b>57,669.27</b>

## CLEARING ACCOUNT-EQUIPMENT (3251)

Cash Balance July 1, 2016		283,320.71
<b>RECEIPTS</b>		
Rental Leases	14,960.00	
<b>PLUS TOTAL RECEIPTS</b>		<b>14,960.00</b>
<b>DISBURSEMENTS</b>		
Current Expenses	(1,184.00)	
Repairs and Alterations	(74.85)	
<b>LESS TOTAL DISBURSEMENTS</b>		<b>(1,258.85)</b>
<b>CASH BALANCE JUNE 30, 2017</b>		<b>297,021.86</b>

## CLASS A-1 SMALL ARMS HUNTING LICENSE (3259)

Cash Balance July 1, 2016		44,168.47
Investment Balance July 1, 2016		628,275.84
Beginning Fund Balance		672,444.31
<b>RECEIPTS</b>		
Class A-1 Small Arms Hunting License	54,706.00	
Lifetime Small Arms Hunting License	2,475.00	
Investment Earnings	5,113.66	
<b>PLUS TOTAL RECEIPTS</b>		<b>62,294.66</b>
<b>DISBURSEMENTS</b>		
Equipment	0.00	
<b>LESS TOTAL DISBURSEMENTS</b>		<b>0.00</b>
Ending Fund Balance		734,738.97
Less - Investment Balance June 30, 2017		(723,389.50)
<b>CASH BALANCE JUNE 30, 2017</b>		<b>11,349.47</b>

**PARKS IMPROVEMENT TO FACILITIES (3260)**

Cash Balance July 1, 2016		0.00
<b>RECEIPTS</b>		
Interagency Federal Payments	0.00	
<b>PLUS TOTAL RECEIPTS</b>		0.00
<b>DISBURSEMENTS</b>		
Current Expenses	0.00	
<b>LESS TOTAL DISBURSEMENTS</b>		0.00
<b>CASH BALANCE JUNE 30, 2017</b>		0.00

**WATTERS SMITH MEMORIAL STATE PARK (3261)**

Cash Balance July 1, 2016		65,972.57
Investment Balance July 1, 2016		475,779.28
Beginning Fund Balance		541,751.85
<b>RECEIPTS</b>		
Gas Royalties	196,144.07	
Investment Earnings	6,127.43	
Oil & Gas Lease	423.72	
<b>PLUS TOTAL RECEIPTS</b>		202,695.22
<b>DISBURSEMENTS</b>		
Current Expenses	(1,095.37)	
Repairs and Alterations	(15,002.95)	
Contractor Pmts for Capital Asset Proj	(84,492.00)	
Consultant Pmts for Capital Asset Proj	(5,224.00)	
<b>LESS TOTAL DISBURSEMENTS</b>		(105,814.32)
Ending Fund Balance		638,632.75
Less - Investment Balance June 30, 2017		(595,982.65)
<b>CASH BALANCE JUNE 30, 2017</b>		42,650.10

**DECOY ANIMALS ASSESSMENT FEE (3264)**

Cash Balance July 1, 2016		1,000.00
Investment Balance July 1, 2016		7,591.64
Beginning Fund Balance		8,591.64
<b>RECEIPTS</b>		
Decoy Animal Assessment Fee	2,139.75	
Investment Earnings	66.32	
<b>PLUS TOTAL RECEIPTS</b>		2,206.07
<b>DISBURSEMENTS</b>		
Current Expenses	0.00	
<b>LESS TOTAL DISBURSEMENTS</b>		0.00
Ending Fund Balance		10,797.71
Less - Investment Balance June 30, 2017		(9,657.96)
<b>CASH BALANCE JUNE 30, 2017</b>		1,139.75

# Statement of Revenues/Disbursements

## STATE PARK OPERATING FUND (3265)

Cash Balance July 1, 2016	1,920,880.93
Investment Balance July 1, 2016	9,672,946.57
Beginning Fund Balance	11,593,827.50

### RECEIPTS

Bath / Massages	445,418.70
Bicycle Rental	2,821.55
Boat Charters	9,317.85
Boat Rental	91,618.03
Bonus Payment Marcellus Gas Drilling	132,896.42
Cabin Advance Reservation	2,998,071.57
Cabin Rentals	2,254,362.42
Campsite Advance Reservation	744,812.52
Campsite Rentals	1,310,973.62
Coin Laundry Machines	9,675.60
Consumers Sales Tax	14,854.97
Cot & Crib Rental	18,063.67
Driving Range	12,489.30
Entrance Fees	301,391.99
Equipment Rental	8,986.93
Facility Use Rental	124,796.42
Firewood Sales	134,485.89
Food & Snacks	220,562.89
Games	8,196.30
Gas Royalties	325,608.28
Gift Cards	16,263.58
Gift Shop Sales	2,017,418.53
Greens Fees	580,378.44
Group Camps	38,945.56
Hotel Occupancy Tax	567,340.92
Insurance Payments	328,719.95
Investment Earnings	80,890.55
Lift Ticket Fees Parks	65,672.28
Lodge Advance Reservation	2,254,602.27
Lodge Rooms	3,052,663.63
Lottery Collections - Net	5,499.74
Miniature Golf	29,021.96
Miscellaneous Collections	270,697.96
Miscellaneous Non-Taxable	(51,622.34)
Miscellaneous Taxable	20.00
Picnic Shelter Fees	229,386.87
Pro Shop	117,274.50
Purchasing Card Rebate	615,013.45
Residence Rentals	13,568.37
Restaurants	1,434,865.83
Roman Bath	181,329.50
Shooting Ranges	31,419.26
Sled Rental	10.00
Special Events	45,684.41



Surplus Property Sale	15,641.00	
Swimming Fees	400,527.12	
Tram	145,995.92	
Vending Machines	20,982.21	21,677,616.39
<b>RECEIPTS - CONCESSIONS</b>		
Boat Dock Concession	44,528.37	
Coin Machine Concession	9,933.03	
Food and Snacks Concession	27,444.00	
Golf Carts	202,838.65	
Marina	6,260.85	
Miscellaneous Concession	161,282.91	
Restaurant Concession	17,270.28	
Riding Stable	10,596.34	480,154.43
<b>PLUS TOTAL RECEIPTS</b>		<b>22,157,770.82</b>
<b>DISBURSEMENTS</b>		
Personnel Services	(6,163,423.80)	
Employee Benefits	(1,434,739.27)	
Current Expenses	(11,310,813.37)	
Repairs and Alterations	(65,754.94)	
Equipment	(2,197.39)	
Remittance Of Taxes	(597,559.50)	
Grants and Awards	(109.99)	
Bank Costs	(281,105.08)	
PEIA Reserve Transfer	(11,060.46)	
Consultant Pmts for Capital Asset Proj	(535,670.10)	
Consultant Pmts for Capital Asset Proj	(413,306.49)	
WV OPEB Contribution	(100,403.26)	
<b>LESS TOTAL DISBURSEMENTS</b>		<b>(20,916,143.65)</b>
Ending Fund Balance		12,835,454.67
Less - Investment Balance June 30, 2017		(10,753,837.12)
<b>CASH BALANCE JUNE 30, 2017</b>		<b>2,081,617.55</b>

#### CANAAN MAINTENANCE FUND (3274)

Cash Balance July 1, 2016		18,597.86
<b>RECEIPTS</b>		
Maintenance Transfer from Operating Fund	0.00	
<b>PLUS TOTAL RECEIPTS</b>		<b>0.00</b>
<b>DISBURSEMENTS</b>		
Current Expenses	(1,363.72)	
<b>LESS TOTAL DISBURSEMENTS</b>		<b>(1,363.72)</b>
<b>CASH BALANCE JUNE 30, 2017</b>		<b>17,234.14</b>

**COYOTE MANAGEMENT FUND (3292)**

Cash Balance July 1, 2016		375.68
Investment Balance July 1, 2016		7,733.89
Beginning Fund Balance		8,109.57
<b>RECEIPTS</b>		
Coyote Management Donations	1,809.00	
Investment Earnings	64.93	
<b>PLUS TOTAL RECEIPTS</b>		1,873.93
<b>DISBURSEMENTS</b>		
Current Expenses	0.00	
<b>LESS TOTAL DISBURSEMENTS</b>		0.00
Ending Fund Balance		9,983.50
Less - Investment Balance June 30, 2017		(9,798.82)
<b>CASH BALANCE JUNE 30, 2017</b>		184.68

**ALL FLOOD DISASTER FUNDS (3015, 3207)**

Fund 3015 (OCT '12 SANDY DISASTER) Cash Balance July 1, 2016		172,273.18
Fund 3207 (JUN '16 FLOOD DISASTER) Cash Balance July 1, 2016		0.00
<b>RECEIPTS</b>		
Fund 3015 Transfers In Hurricane Sandy Disaster	0.00	
Fund 3207 Transfers In Jun'16 Flood Disaster	215,807.13	
<b>PLUS TOTAL RECEIPTS</b>		215,807.13
<b>DISBURSEMENTS</b>		
Fund 3015 Contractor Pmts for Capital Asset Proj	0.00	
Fund 3207 Contractor Pmts for Capital Asset Proj	0.00	
<b>LESS TOTAL DISBURSEMENTS</b>		0.00
<b>CASH BALANCE JUNE 30, 2017</b>		388,080.31

**RECAPITULATION OF FUNDS**

	Revenue	Disbursements	Investments
General Fund	0.00	(18,894,958.25)	0.00
Consolidated Federal Funds	18,518,897.47	(17,951,622.92)	9,149,900.24
Appropriated Special Revenue Funds	22,276,348.37	(24,960,559.49)	9,469,287.75
Non-Appropriated Special Revenue Funds	41,196,339.81	(33,472,938.20)	108,467,173.59
<b>TOTAL ALL FUNDS</b>	81,991,585.65	(95,280,078.86)	127,086,361.58

# Office of Land and Streams

The Office of Land and Streams serves the Division in many capacities. Two primary responsibilities are the supervision and administration of the Division's land acquisition and real estate title documents program, and the administration of the state's rivers and streams. These main functions involve the acquisition, exchange, and leasing of land and improvements and exercising control over the various activities in the state's rivers and streams. They include organizing and archiving of the real estate title documents for the Division and the everyday administration of real estate titles, various rights-of-entry, and license agreements on the State's rivers and streams.

**Office of Land  
and Streams**  
Joe T. Scarberry,  
*Supervisor*

## LAND ACQUISITION

---

The land acquisition function is accomplished by purchase, lease, condemnation, donations, bequests and exchanges. It involves various procedures such as: the collection of legal data from county courthouse records, negotiations with property owners to obtain leases and/or options to purchase, detailed physical inspections of all types of real estate, obtaining appraisal reports of fair market value, and the preparation of various real estate title documents and real estate quantitative and status reports.

The Office of Land and Streams is responsible for procedures dealing with the preparation, execution, and recording of legal documents such as deeds, leases, license agreements, rights of way, joint interagency agreements, easements and land purchase invoices. It also prepares numerous other types of documents for state and federal agencies including permits, applications, agreements and contracts.

This Office maintains a close working relationship with the attorneys assigned by the State Attorney General's Office to get projects such as land acquisitions, court cases and other required real estate legal work completed in an efficient and effective process. Land and Streams handles all contract boundary survey work and contracts consultants for engineering services relating to oil, gas, and coal resources owned or leased by the Division of Natural Resources. The primary land acquisition program and the real estate related activities are conducted on behalf of the West Virginia Department of Commerce, the Parks and Recreation and Wildlife Resources Sections of the Division of Natural Resources and the Division of Forestry.

## RIVERS AND STREAM MANAGEMENT

---

The Division of Natural Resources holds for the state the title to the beds of the state's rivers, creeks and streams totaling some 34,000 miles or some 5,000 named waterways in the state. In the past year, 306 right-of-entry letters were granted to governmental agencies, companies, and individuals to conduct construction activities in the state's rivers, creeks and streams; 1,078 right of way licenses were granted for pipelines, underground or underwater cables, and overhead power and telephone lines crossing the state's waterways; and 476 large stream structure agreements were granted for bridges and culverts.

## OTHER FUNCTIONS

---

This Office is also responsible for the up-to-date inventory of all lands owned or leased by the Division of Natural Resources. The Division of Natural Resources' lands are broken down as follows: Administration 14 acres, State Forests 71,488 acres, State Parks 77,078 acres, and Wildlife Management Areas/Public Access Sites 418,698 acres, for a total of 567,278 acres of land with partial mineral rights as well as holding title to 34,000 miles of the state's river and creek beds. This acreage encompasses some 390 separate areas such as wildlife management areas, public access sites, wetlands, state parks, trails and forest lands. These lands provide recreation, are of great natural and/or historical significance, and are managed for the use and benefit of the citizens of West Virginia and its visitors.

## PROPERTIES ACQUIRED

AREA	ACREAGE
<b>Cass Scenic Railroad State Park</b> H.A. Taylor II	2.50
<b>Cheat River Canyon WMA</b> Conservation Fund	1,386.60
<b>Eidolon Nature Preserve</b> USA	9.69
<b>Meadow River Wetland WMA</b> Greenbrier Minerals, LLC	1.02
<b>Pinnacle Rock State Park</b> James R. Butt	3.92
<b>Spring Run PAS</b> Jerry Burke et al Jerry Burke	142.17 7.63
<b>Tomblin WMA</b> Wapiti Woods, LLC	10,922.00

## LAND LICENSED OR LEASED TO DNR

AREA	ACREAGE
<b>Belington PAS</b> City of Belington	0.50*
<b>Chapmanville PAS</b> WV Division of Highways	1.06*
<b>Hanging Rock PAS</b> Charles B. Herriott	1.00*
<b>McClintic Wildlife Station WMA</b> Franklin Real Estate	278.93*
<b>Romney Bridge PAS</b> WV Division of Highways	3.68*
<b>Second Creek FFA</b> Meredith Rice	.712*
<b>Short Mountain WMA</b> Cacapon & Lost River Land Trust	452.00*
<b>Stonewall Jackson Lake WMA</b> USA	18,289.00*
<b>Tomblin WMA</b> Wapiti Woods LLC	21,474

\*Renewals not included in summary of new acreages

	<b>ACREAGE</b>
7 parcels acquired	12,476.00
2 parcels licensed or leased	21,474.00
1 license or lease agreement canceled	-0.8
<b>Net increase for FY 2016-2017</b>	<b>+ 33,949.20</b>

## **OPTIONS TO PURCHASE OBTAINED**

---

<b>AREA</b>	<b>ACREAGE</b>
<b>Big Ugly WMA</b>	
Wapiti Woods LLC	5,411.00
<b>Spring Run PAS</b>	
Jerry A. Burke et al	142.17
Jerry A. Burke	7.63
<b>Tomblin WMA (Conservation Easement)</b>	
Wapiti Woods LLC	10,941.00

## **PARCELS IN PROCESS OF ACQUISITION**

---

<b>PARCELS IN PROCESS OF ACQUISITION:</b>	<b>2</b>
<b>TOTAL ACREAGE</b>	<b>16,352.00</b>

<b>AREA</b>	<b>ACREAGE</b>
<b>Big Ugly WMA</b>	
Wapiti Woods LLC	5,411.00
<b>Tomblin WMA (Conservation Easement)</b>	
Wapiti Woods LLC	10,941.00

## PROPERTY MANAGEMENT

---

The Office of Land and Streams prepared and processed, through various stages of completion, 175 documents relating to the use of the Division of Natural Resources' real estate holdings. These documents included lease agreements, license agreements, easements, mitigation agreements, and amendments and supplements to other existing agreements. Land rights covered by these agreements included road rights of way, power line, cable line, water line, sewage line, and gas and oil line rights of way.

The processing of these agreements required close communication with various field and central office personnel with various other sections of the Division of Natural Resources and with the Department of Commerce, Division of Forestry and other state, county and local governmental offices.

## RIVERS AND STREAM MANAGEMENT

---

Another function of the Division of Natural Resources is to hold title to the beds of the streams within the State of West Virginia. The Office of Land and Streams exercises control over the following activities:

- Dredging and/or pumping of sand, gravel, and derelict coal from the beds of the streams in the state.
- Leasing areas of the beds and under the beds of the streams for the purpose of exploring for oil, gas, and other minerals.
- Utilizing the beds of the streams for the purpose of crossing or placing in the streams pipelines, fords, submarine cables, culverts, bridges, low water bridges, dams, dikes, commercial docking, loading and mooring facilities, recreational marinas, and other structures.

During FY 2016-2017, 782 rights-of-entry were issued for various types of in-stream construction activities. These included channel changes, bridge construction, culvert construction, gravel removal, ford preparation, stream bank protection, water impoundments, fills and pipeline construction.

During FY 2016-2017, 1,078 rights of way or license agreements were issued for gas, water and sewer pipelines; underground and overhead telephone, power and fiber optic cables; and loading, docking and mooring agreements.

Licensed commercial sand, gravel and coal dredging and/or pumping operations produced 390,884 tons of sand and gravel from the beds of the streams in 2016-2017, as reflected below:

## 2016-2017 COMMERCIAL DREDGERS REPORT

---

Total Tonnage Used

COMPANY	RIVER/CREEK	TYPE	TONS
Tri-State River Products	Ohio River	Sand & Gravel	390,884

# Law Enforcement Section

The Law Enforcement Section is responsible for the prompt, orderly, and effective enforcement of all West Virginia Chapter 20 laws and rules promulgated under that authority. Of primary importance is the protection of West Virginia's wildlife to the degree that they are not endangered by unlawful activities. A highly visible, uniformed Natural Resources Police Officer patrol is the only viable way to accomplish this mission. Prevention and apprehension are crucial to the enforcement goal, and the Natural Resources Law Enforcement Section is meeting that goal. In West Virginia, no species of wildlife is jeopardized because of illegal taking.

The Section's success depends upon the hard work of officers in the field to educate the public and inspire and cultivate the next generation of conservationists. The Natural Resources Police have a proud history of carrying out its duties with diligence, resourcefulness, valor and respect.



## Law Enforcement Section

Jerry B. Jenkins, Chief

## LAW ENFORCEMENT PROGRAM

---

The Law Enforcement Section normally has a staffing level of 128 Natural Resources Police Officers (NRPO) and 11 support personnel. During FY2017, two officers retired, nine officers resigned, and four new officers and four civilians were hired.

During FY2017, one officer was promoted to NRP Captain, two officers were promoted to NRP Lieutenant, and two officers were promoted to NRP Sergeant.

The Law Enforcement Section has been actively seeking new and innovative methods to accomplish our overall mission. The following are some of the highlights of the past fiscal year:

- The public and media are following the work done by officers on the WV Natural Resources Police Officer Facebook page. The Facebook page continues to see an increase in state and national media contacts for additional information for the reporting of wildlife law violations.
- The purchase of an online event manager for the Hunter and Boater Education Programs has been completed and additional new hunting and boating classes have been offered within this new system.
- The Section is continuing to move to a computer-based reporting system since the purchase of laptop computers for officers. They can now log their activity directly into the payroll system and supervisors can electronically approve their entries. This change has resulted in less administrative time and travel.
- In accordance with a bill passed during the 2015 Regular Legislative Session, three officers were assigned to work the Hatfield-McCoy Regional Authority effective July 1, 2015. Due to the expansion of the trails system and an increase in the number of riders, the Hatfield-McCoy Regional Recreation Authority has requested the Section assign a NRP Sergeant to the area. The Authority reimburses the Section for salaries, benefits and associated equipment expenses.
- Several Law Enforcement reporting forms have been moved into electronic format to allow for internet transfer and approvals. The Section continually utilizes technology to reduce travel costs. Cell phones, computers, radios, and the internet are used to transmit reports, complaints and other pertinent information. With the addition of an agency intranet, the Section is able to place its forms in a location that can be accessed by all the districts.
- Older equipment such as radios, boats, and vehicles are being cycled out in attempts to avoid costly repair bills that are often found to be short-term and repetitive.
- By direction of the Director, to comply with fleet reduction mandates, the section reduced the overall fleet by 10 vehicles.



- The Agency continues to work with federal and state agencies to procure grants to assist with equipment purchases. The Hunter Education and Boating Grants are monitored to maximize returns from the Section expenditures.
- Conference calls are used to conduct meetings, boards, or planning sessions to cut down on in-state travel.
- Duty pistols have been replaced to avoid costly preventative maintenance costs and malfunctions due to age and wear. Secondary pistols were also purchased for each officer for use on and off duty and during special details.
- Duty patrol rifles were upgraded with new EOtech optics and a Surefire light.
- Portable radios are being transitioned with the new dual band handheld radios.

## OFFICER TRAINING

---

Officers received training in wildlife forensics, defensive tactics/scenario-based training, search and seizure, enhanced firearms equipment training, ginseng training, environmental law enforcement, search and rescue, and basic land navigation. Some of the courses were instructor-based and will enable us to continually update officers in the respective fields of instruction.

Natural Resources Police Officers received training utilizing the seated battery for BUI and DUI apprehension. Two new NASBLA-approved Seated-Battery Instructors were certified.

The Section Honor Guard attended opening ceremonies, special events and funerals. During the year, feedback has been overwhelmingly positive and additional officers have been trained for the program.

## HUNTER EDUCATION PROGRAM

---

The mandatory Hunter Education Program in West Virginia continues to be a success. During FY16-17, 7,762 students graduated from 539 statewide hunter education classes. The volunteer hunter education instructors continue to provide a great service to the Hunter Education Program. More than 189 volunteer instructors drove 27,483 miles and donated more than 7,106 hours to the program. Natural Resources Police Officers logged 15,157 hours and drove 132,982 miles.

The Law Enforcement Section dedicates six regional training sergeants, one office assistant, and one state coordinator to this program.

The Law Enforcement Section maintains online class information and registration services at [www.register-ed.com](http://www.register-ed.com). The online courses are designed to eliminate the classroom portion of the program; however, students will not receive their certification until they pass the hands-on practicum and final exam at the nearest district office.

During the 2016 calendar year, West Virginia experienced six Class A hunting incidents, resulting in one fatality. Class A hunting incidents are defined as an injury caused by the discharge of a bow or firearm while hunting. There were 11 Class B hunting incidents resulting in zero fatalities. Class B incidents are defined as any other hunting related injury. Eleven of the Class B incidents involved tree stands and resulted in no fatalities. There was a total of seven Class C hunting incidents. Three hunters slipped/fell, five hunters experienced heart attacks, two were fatal. Class C incidents are defined as non-hunting related shooting injuries. There were two Class D hunting incidents. Class D is defined as property damage reports.



Officers across the state have participated in several sporting and hunting shows, attended summer camps, and other special events such as JAKES Day, National Hunting and Fishing Days, and Archery in the School programs.

The Law Enforcement Section has conducted numerous interviews for TV, radio, and magazines promoting safe hunting and boating.



## **BOATING SAFETY/EDUCATION PROGRAM**

---

Boating safety classes are offered in all counties in West Virginia. The U.S. Coast Guard Auxiliary, the U.S. Power Squadrons, and the National Association of State Boating Law Administrators (NASBLA) also have approved courses. Classes are also available online at [www.wvdnr.gov](http://www.wvdnr.gov). Anyone born after Dec. 31, 1986, is required to successfully complete a NASBLA-approved course before operating a motorboat. Several news releases have been distributed and interviews have been conducted to get this message out to the public. Students may view class information and register online at [www.register-ed.com](http://www.register-ed.com).

A grant from the Governor's Commission on Drunk Driving Prevention provided funding for enhanced BUI patrols on West Virginia waters from July 1, 2016, to Sept. 25, 2016. These patrols resulted in 15 BUI arrests and 546 other citations/warnings.

Natural Resources Police Officers participated in the nationwide program, *Operation Dry Water*, June 30, 2017, through July 02, 2017, to reduce alcohol-related boating incidents. This operation resulted in three BUI arrests and 127 other citations/warnings. The Section renewed efforts toward water safety and increased lifejacket usage by the public through our *Wear It Campaign*.

## **WHITewater ENFORCEMENT PROGRAM**

---

The Law Enforcement Section has the responsibility of regulating the commercial whitewater industry in West Virginia. Twenty-two commercial whitewater outfitter and guides were licensed for FY16-17. Eighteen general outfitter and guides are licensed to conduct business in designated whitewater zones for FY16-17.

The Law Enforcement Section issues all licenses; collects fees; maintains submitted injury reports, user number reports and trip leader reports for outfitters; investigates new license applications; and reviews license transfers for approval. Natural Resources Police Officers patrol rivers, conduct compliance checks on guides, equipment and investigations of whitewater accidents.

The Whitewater Commission and the Division of Natural Resources continue to work together, making commercial whitewater operations as efficient and safe as possible. The Commission and Division have continued to work diligently to maintain a comprehensive whitewater reporting system. The website has streamlined all required reporting by outfitters conducting business in whitewater zones.

## LAW ENFORCEMENT ACTIVITY

JULY 1, 2016 – JUNE 30, 2017

DISTRICT	ARRESTS					WARNINGS				COMPLAINTS			
	CHAPTER 20 ARRESTS	CHAPTER 22 ARRESTS	ARREST WARRANTS	OTHER ARRESTS	TOTAL ARRESTS	CHAPTER 20 WARNINGS	CHAPTER 22 WARNINGS	OTHER WARNINGS	TOTAL WARNINGS	RECEIVED	INVESTIGATED	WILDLIFE DAMAGE RECEIVED	WILDLIFE DAMAGE INVESTIGATED
ONE	489	92	39	61	<b>681</b>	370	485	93	<b>948</b>	1033	953	213	210
TWO	351	100	37	77	<b>565</b>	133	113	74	<b>320</b>	569	529	286	283
THREE	547	149	25	0	<b>721</b>	521	549	152	<b>1222</b>	918	851	299	279
FOUR	383	42	55	80	<b>560</b>	504	165	124	<b>793</b>	523	493	194	195
FIVE	1338	198	36	145	<b>1717</b>	981	432	200	<b>1613</b>	1067	989	100	95
SIX	696	67	57	139	<b>959</b>	753	209	182	<b>1144</b>	556	515	94	94
<b>TOTALS</b>	<b>3804</b>	<b>648</b>	<b>249</b>	<b>502</b>	<b>5203</b>	<b>3262</b>	<b>1953</b>	<b>825</b>	<b>6040</b>	<b>4666</b>	<b>4330</b>	<b>1186</b>	<b>1156</b>

## REPORT OF PROSECUTIONS BY CHARGE

FY 2016–2017

HEADING AND CHARGE	DISTRICT							TOTAL
	ONE	TWO	THREE	FOUR	FIVE	SIX		
<b>LITTERING</b>								
Littering, Less than 100 lbs.	34	21	24	13	31	8	<b>131</b>	
Littering, 100-500 lbs.	2	3	3	2	6	2	<b>18</b>	
Littering, Greater than 500 lbs.			1		2	1	<b>4</b>	
Mandatory Disposal of Litter		3	3	3	8	1	<b>18</b>	
Littering, Public/Private Road, property, or water		1	2		1		<b>4</b>	
Littering, From Motor Vehicle						1	<b>1</b>	
<b>TOTAL LITTERING</b>	<b>36</b>	<b>28</b>	<b>33</b>	<b>18</b>	<b>48</b>	<b>13</b>	<b>176</b>	

HEADING AND CHARGE	DISTRICT						TOTAL
	ONE	TWO	THREE	FOUR	FIVE	SIX	
<b>LICENSE</b>							
Resident Hunting without License	22	10	22	25	42	31	152
Resident Fishing without License	60	14	23	25	160	42	324
Improper Hunting License					3		3
Improper Fishing License				1			1
Making False Application - Hunting License					2		2
Hunting without Class A-1 License	1			1	1		3
Hunting Deer without Class N License	5	2	5	1	5	12	30
Fishing Paraphernalia in Possession without License	2	5	9	2	15	3	36
Hunting Paraphernalia in Possession without License	1	5			4		10
Hunt Bear without Bear Damage	2			1			3
Hunting while License Revoked	1				2	4	7
Fishing While License Revoked			1				1
Hunting Migratory Birds without Federal Stamp					1		1
Trapping without License		1	1		1		3
Take Beaver/Muskrat by any means other than Trap				1	2	3	6
Fishing without Photo ID in Possession					21		21
Hunting without Photo ID in Possession			1		1	14	16
Failure to obtain Catch & Sell License					1		1
Fishing without Trout Stamp	3		1	3	7	3	17
Non-Resident Hunting without License	10	5	1	4	1	6	27
Non-Resident Fishing without License	12	23	8	5	15	11	74
Making False Application - Fishing License					1		1
Hunt Deer without RB/RRB Stamp	1	3	3	1	4		12
<b>TOTAL LICENSE</b>	<b>120</b>	<b>68</b>	<b>75</b>	<b>70</b>	<b>289</b>	<b>129</b>	<b>751</b>

<b>HUNTING</b>							
Loaded/Uncased Firearm or Nocked Crossbow in Vehicle	23	10	28	17	32	11	121
Uncased Gun in Vehicle at Night		2	14		10	33	59
Spotlighting/Night Vision	4		4	5	7	1	21
Illegal Possession of Wildlife or Parts Thereof	36	17	45	41	86	84	309
Hunting Closed Season	8	4	14	19	23	7	75
Exceeding Daily Bag Limit	3		3	1	7	3	17
Uncased Gun, Closed Season				2	1	7	10
Uncased Gun on Sunday		1		1			2
Failure to Field Tag Game	15	7	14	9	18	11	74
Failure to Check Game	14	11	16	25	28	27	121
Negligent Shooting - Person			1				1

HEADING AND CHARGE	DISTRICT						TOTAL
	ONE	TWO	THREE	FOUR	FIVE	SIX	
Shoot Across or in Public Road			3	1	2		6
Shoot within 500 Feet of Dwelling	4	6	3	4	4	6	27
Hunting without Permission	14	8	11	38	47	28	146
Hunting Migratory Birds with Unplugged Gun					2	1	3
Illegal Method of Hunting					1		1
Hunting After Killing Legal Deer	2	3	7		2	4	18
Killing Protected Bird					1		1
Hunting on Sunday		1	1	2		5	9
Illegal Transportation of Wildlife out of State					1	8	9
Illegal Importation of Wildlife					2		2
Hunt Turkey over Bait	6		1	7		8	22
Illegal Killing or Taking of Deer, Turkey, or Boar	6	4	7		5	26	48
Insufficient or No Blaze Orange	5	10	3	4	8	9	39
Hunt Deer 1/2 Hour after Sunset and 1/2 Hour before Sunrise	1	3	3	9	5	2	23
Shooting at Game not Plainly Visible					5		5
Shooting/Hunting from a Land Conveyance	10	9	19	23	38	41	140
Bow and Gun in Woods at Same Time	1			1		1	3
Hunt in Vehicle without Class Q Permit			1				1
Interference with Hunter/Trapper	1						1
Hunt without Required Hunter Education Card		1		1	8		10
Kill Bear over Bait	1				6		7
Shoot within 25 Yards of Vehicle		1	1	2	2		6
Illegal Firearm/Ammo for Deer Hunting				2	6	3	11
Electronic Registration Requirement		10	1	2	7	1	21
Failure to Tag Trap	1	2	1		3		7
Destroy or Possess nest/eggs of Wild Bird						1	1
Use Drone to Drive Animals/Birds for Hunting			1				1
Shoot Migratory Birds after Hours					1		1
Illegal Possession of Bear	1	1		3			5
Hunt Bear Closed Season				1			1
Failure to Field Tag Bear	1		1				2
Failure to Check Bear	1		1				2
Failure to Hunt with Underage Child			1				1
Bait Cervids in Containment Area		13	1				14
Use exposed bait on trap				1			1
Failure to Tend Traps Daily	1						1
<b>TOTAL HUNTING</b>	<b>159</b>	<b>124</b>	<b>206</b>	<b>221</b>	<b>368</b>	<b>328</b>	<b>1406</b>

HEADING AND CHARGE	DISTRICT						TOTAL
	ONE	TWO	THREE	FOUR	FIVE	SIX	
<b>FISHING</b>							
Taking Fish by Illegal Method	1		3		4		8
Exceed Daily Creel Limit		2	10	2	15	22	51
Illegal Possession of Fish, Minnows and Aquatic Life			1		1		2
Take Frogs Closed Season				1			1
Fishing in Restricted Area	1			1	15		17
Fishing Without Permission	4				3		7
Interference with Fishermen			1				1
Using Prohibited Bait in Restricted Area		1	6				7
Alcohol in Fishing Access Area		11			2	5	18
Block Fishing Access Area						3	3
Unauthorized Use of Fishing Access Area		4			2		6
Trash Disposal on Fishing Access Area		2			5		7
<b>TOTAL FISHING</b>	<b>6</b>	<b>20</b>	<b>21</b>	<b>4</b>	<b>47</b>	<b>30</b>	<b>128</b>

<b>BOATING</b>							
Boating Under the Influence (BUI)	1		4			6	11
Boats - None or no Approved Equipment			8			6	14
Creating a Wake in a No-Wake Zone	1		14		1		16
Boats - None or No Approved Lights					6		6
Operating Unregistered Watercraft	5		4		6	2	17
Operating Boat or PWC in Unsafe Manner	4	1		2	1		8
Operating without Required Boater Safety Card	3		3		2		8
Passenger Under 12 without PFD While in Operation			5		4	4	13
Pulling Skier without Observer or Mirror	1		1			2	4
Insufficient Number of Life Preservers	40	12	15	2	61	3	133
Reckless Operation of Watercraft	4		3		2		9
Operate Watercraft in Restricted Area					3		3
Overpowering a Watercraft			1				1
<b>WHITEWATER</b>							
Insufficient Whitewater Guide/Trip Leader Requirements		1					1
Operate Commercial Whitewater Trip without License					1		1
<b>TOTAL BOATING</b>	<b>59</b>	<b>14</b>	<b>58</b>	<b>4</b>	<b>87</b>	<b>23</b>	<b>245</b>

<b>WASTE MANAGEMENT</b>							
Create/Contribute to an Open Dump	2	4	17	5	30	4	62
Endangerment by Waste Disposal	9	9		1	6		25
Failure to Show Proof of Proper Disposal	18	15	1	1	17	4	56

HEADING AND CHARGE	DISTRICT						TOTAL
	ONE	TWO	THREE	FOUR	FIVE	SIX	
Open Burning of Refuse	17	9	20	4	20	5	75
Unauthorized Use of Dumpster	1	3		1		1	6
Unpermitted Solid Waste Facility						1	1
Waste Tire Violation					2	3	5
Stream Pollution		1					1
<b>TOTAL WASTE MANAGEMENT</b>	<b>47</b>	<b>41</b>	<b>38</b>	<b>12</b>	<b>75</b>	<b>18</b>	<b>231</b>

#### FORESTRY

Abandoning a Fire	6	4	1			1	12
Dig Ginseng without Permission		1		4	3	5	13
Illegal Burning	4	3	7		21	7	42
Throw Lighted Material				1	3	1	5
Failure to Safety Strip	4					5	9
Permitting a Fire to Escape		1					1
Dig Ginseng Closed Season	1	1		8	3		13
Ginseng Dealers License Requirement	1			2	6	1	10
Possess Uncertified Ginseng				12	3	1	16
Dig Ginseng Less than 5 Yrs Old		1		1			2
<b>TOTAL FORESTRY</b>	<b>16</b>	<b>11</b>	<b>8</b>	<b>28</b>	<b>39</b>	<b>21</b>	<b>123</b>

#### GENERAL

Conspiracy to Commit Fishing Violation	2	1	1	1	9	2	16
Conspiracy to Commit Hunting Violation	23	3	12	15	32	14	99
Dogs Chasing Deer			1				1
Obstructing - Withholding Information	5	2	4	1	15	13	40
Obstructing - Physical Altercation/Aggravated Assault			1				1
Violation of Park/WMA Regulations	17	9	9	20	37	9	101
Offense Outside Chapter 20	52	61	24	48	27	46	258

#### HATFIELD-MCCOY RECREATIONAL AUTHORITY

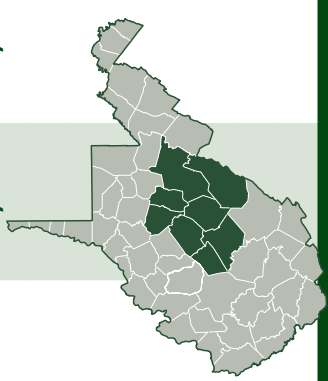
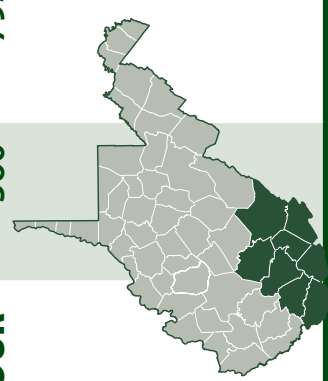
Failure to Possess Permit Requirement for Area				33	21		54
Prohibited Alcohol in Area				1	6		7
Failure to Wear Required Helmets on Area				54	36		90
On Trail 1/2 Hour after Sunset to 1/2 Hour before Sunrise				11	2		13
Loaded/Uncased Firearm or Nocked Crossbow in Vehicle				1			1
Failure to Obey Area Traffic Laws					2		2
<b>TOTAL GENERAL</b>	<b>99</b>	<b>76</b>	<b>52</b>	<b>185</b>	<b>187</b>	<b>84</b>	<b>683</b>

<b>TOTAL ALL PROSECUTIONS</b>	<b>542</b>	<b>382</b>	<b>491</b>	<b>542</b>	<b>1140</b>	<b>646</b>	<b>3743</b>
-------------------------------	------------	------------	------------	------------	-------------	------------	-------------

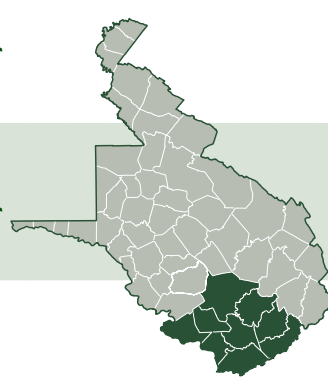
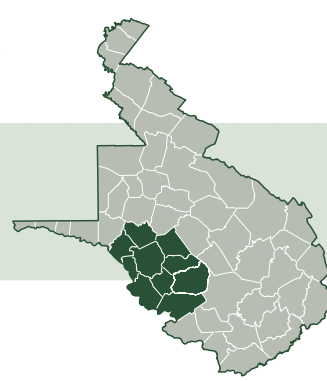
# PROSECUTION PROGRAM BY DISTRICT

FY 2016-2017

DISTRICT	TOTAL ARRESTS	TOTAL WARNINGS	COUNTY	NUMBER OF PROSECUTIONS	Dispositions of Prosecutions			FAILED TO APPEAR
					CONVICTED	DISMISSED	ACQUITTED	
<b>ONE</b>		<b>948</b>	Barbour	61	61	0	0	0
			Brooke	33	33	0	0	0
			Hancock	21	21	0	0	0
			Harrison	81	79	2	0	0
			Marion	48	48	0	0	0
			Marshall	33	33	0	0	0
			Monongalia	75	74	1	0	0
			Ohio	30	30	0	0	0
			Preston	110	110	0	0	0
			Taylor	23	23	0	0	0
			Tucker	6	6	0	0	0
			Wetzel	21	20	1	0	0
			<b>TOTAL DISTRICT 1</b>	<b>542</b>	<b>538</b>	<b>4</b>	<b>0</b>	<b>0</b>
<b>TWO</b>		<b>320</b>	Berkeley	47	42	5	0	11
			Grant	34	34	0	0	0
			Hampshire	32	29	3	0	1
			Hardy	75	69	5	1	0
			Jefferson	52	50	2	0	5
			Mineral	41	37	4	0	0
			Morgan	37	28	9	0	2
			Pendleton	45	41	4	0	0
			<b>TOTAL DISTRICT 2</b>	<b>363</b>	<b>330</b>	<b>32</b>	<b>1</b>	<b>19</b>

DISTRICT	TOTAL ARRESTS	TOTAL WARNINGS	COUNTY	NUMBER OF PROSECUTIONS	Dispositions of Prosecutions				
					CONVICTED	DISMISSED	ACQUITTED	FAILED TO APPEAR	
<b>THREE</b>		<b>1,046</b>	<b>1,218</b>	Braxton	30	20	10	0	0
				Clay	44	27	17	0	0
				Lewis	70	66	4	0	0
				Nicholas	98	73	25	0	1
				Pocahontas	26	23	3	0	0
				Randolph	86	85	1	0	4
				Upshur	101	95	6	0	1
				Webster	33	29	4	0	0
				<b>TOTAL DISTRICT 3</b>	<b>488</b>	<b>418</b>	<b>70</b>	<b>0</b>	<b>6</b>
				<b>FOUR</b>		<b>560</b>	<b>793</b>	Fayette	24
Greenbrier	104	91	10					3	0
McDowell	65	44	21					0	13
Mercer	96	64	30					2	12
Monroe	32	29	3					0	0
Raleigh	42	36	6					0	11
Summers	59	40	19					0	0
Wyoming	72	29	31					12	6
<b>TOTAL DISTRICT 4</b>	<b>494</b>	<b>355</b>	<b>122</b>					<b>17</b>	<b>46</b>



DISTRICT	TOTAL ARRESTS	TOTAL WARNINGS	COUNTY	NUMBER OF PROSECUTIONS	Dispositions of Prosecutions				
					CONVICTED	DISMISSED	ACQUITTED	FAILED TO APPEAR	
<b>FIVE</b>		<b>1,717</b>	<b>1,618</b>	Boone	117	90	27	0	0
				Cabell	105	41	64	0	9
				Kanawha	116	53	63	0	13
				Lincoln	38	26	12	0	4
				Logan	121	44	77	0	0
				Mason	291	241	50	0	0
				Mingo	123	56	64	3	1
				Putnam	65	43	22	0	3
				Wayne	120	34	85	1	10
				<b>TOTAL DISTRICT 5</b>	<b>1096</b>	<b>628</b>	<b>464</b>	<b>4</b>	<b>40</b>
<b>SIX</b>		<b>959</b>	<b>1,144</b>	Calhoun	112	55	57	0	0
				Doddridge	24	21	3	0	0
				Gilmer	33	22	11	0	0
				Jackson	144	53	91	0	0
				Pleasants	21	20	1	0	0
				Ritchie	22	11	11	0	0
				Roane	27	22	5	0	0
				Tyler	16	14	2	0	0
				Wirt	117	96	21	0	0
				Wood	133	110	23	0	0
<b>TOTAL DISTRICT 6</b>	<b>649</b>	<b>424</b>	<b>225</b>	<b>0</b>	<b>0</b>				
<b>STATE TOTALS</b>	<b>5,528</b>	<b>6,041</b>	<b>2,693</b>	<b>917</b>	<b>22</b>	<b>111</b>			

# Parks and Recreation Section



## Parks and Recreation Section

Samuel A. England,  
Chief

## OVERVIEW

---

The mission of the Parks and Recreation Section, as contained in State Code, is to “promote conservation by preserving and protecting natural areas of unique or exceptional scenic, scientific, cultural, archaeological, or historical significance and to provide outdoor recreational opportunities for the citizens of this state and its visitors.”

The Parks and Recreation Section promotes conservation beginning with the mere existence and the ease of access to the public. Through proper management and protection efforts, Parks clearly demonstrates the conservation message. The system provides clean, well kept, inviting, safe and affordable outdoor encountering opportunities, and successfully preserves and protects more than 164,000 acres of West Virginia’s most premier real estate. Nearly 12,000 acres, distributed throughout the system, are developed lands with public recreational facilities.

The 152,000 acres of undeveloped land is overwhelmingly important to providing mostly undisturbed ecosystems on State Parks, which are enjoyed by around 7,000,000 visitors annually and set aside for generations to come. The philosophy of land protection was essentially non-existent when the West Virginia state parks were first established. Today, the State Parks mission of preserving and protecting West Virginia’s greatest treasures cannot be overlooked and is even more important than when established. These protected lands are significant for providing specific necessary ecosystems that are not safeguarded anywhere else in the state. Additionally, the upper watersheds of many of the state’s rivers and streams are within the agency’s responsibility, helping to ensure healthy water supplies for the citizens within and outside of our borders. Hiking trails and park and forest roads meander quietly through areas providing tranquil settings for mental and physical health and for the enrichment of the visitors. These areas are treasured as important valuable resources by the citizens. Moreover, this prime real estate adds significantly to the land values of surrounding privately owned lands, which contribute to the tax base of county governments.

The system is composed of 35 state parks, nine state forests and two state rail trails. West Virginia citizens enjoying state parks and forests represent 65 percent of visitors while 35 percent were guests traveling from outside the state. The recreational opportunities provided by these areas are significant to the tourism industry in West Virginia. The Parks and Recreation Section is an economic stabilizer for tourism by offsetting economic fluctuations. Parks protect and maintain a base of tourism during tough economic times, when entrepreneurial and private tourism activity suffers; and serves to buffer the negative consequences of lost tourist activity. As economic times improve, the system encourages these same private businesses to develop and cultivate; thus the tourist base, being generally maintained, requires less effort to grow and prosper.

Equally as important is the noteworthy contribution to the quality of life for the citizens of the state. State parks, forests and rail trails contribute significantly to the physical and mental health of citizen users. Recreational activities range from intense recreational components such as downhill skiing and tubing, to more relaxed activities like golf and marinas to quiet campfires, picnicking, hiking and traditional park recreation. The facility inventory includes 799 lodge rooms, 357 cabins, 1,547 campsites, 144 picnic shelters and 549 playground units. Park and forest staff maintain more than 2,500,000 square feet of indoor space in more than 1,500 buildings with an average age of nearly 50 years. More than 1,400 miles of hiking trails are provided across 45 areas. Hiking has been identified as the primary gateway activity for West Virginia state parks and forests.

Every state park and forest area contributes to the value of the state and the uniqueness of the system. For example, the historical Cass Scenic Railroad and Blennerhassett Island state parks provide a “step back in time” experience where visitors are able to travel by steam locomotive or sternwheel boat



to a park environment demonstrating life in that era. Unique West Virginia treasures, such as the Blackwater Falls, the Babcock Glade Creek Grist Mill, Twin Falls Resort Pioneer Farm, and the Droop Mountain Battlefield CCC-era lookout tower are iconic representations for West Virginia. Exceptional scenic overlooks are protected at areas such as Hawks Nest, Cacapon Resort, Pipestem Resort, Babcock, and Carnifex Ferry Battlefield state parks. The preservation of the impressive virgin forest at Cathedral State Park and representation of 18th century life at Prickett's Fort State Park, while at the same time operating Stonewall, Canaan and Pipestem Resorts, represents the diverse mission of the system.

## GENERAL INFORMATION

---

### Guest Safety and Satisfaction

Guests visiting West Virginia's state parks and forests have an overwhelmingly safe and satisfying experience. The agency is constantly assuring the appropriate operations of complex facilities such as trams, excursion boats, elevators, marinas, historic structures, pools, lakes, dams, water systems, sewage systems and other similar important facilities offered for the care of and use by the public. The system provided recreation to nearly 7,000,000 visitors this past year with minimal incidents or safety concerns. The effort by the staff to maintain, monitor, and provide these facilities safely is a strong indicator of the overwhelming success. Fundamental for marketing is the awareness that all the overnight facilities are considered overwhelmingly free from danger by the traveling public. A significant gauge of this success is the minimal incidents occurring on parks or forests which actually escalate to the level of arrests or citations.

Superintendents and staff are to be commended for the outstanding guest service being provided. Comment card reports show a 94 percent Excellent or Good rating of our parks and forests even though comments received have more than doubled over the past three years.

### Workforce

The Parks and Recreation Section directly employs more than 400 full-time individuals and approximately 1,000 seasonal and summer staff. The employees are a consistent and dedicated workforce, motivated by the understanding of the value of parks and forests and the mission of the Parks and Recreation Section, which is integral to its success.

Approximately one-third of seasonal and summer staff are high school and college-age students gaining first-time work experience. These high school and college age students provide services at pools, campgrounds, restaurants, lodges and also serve as summer naturalists. At these jobs, significant life skills are gained by these employees while learning the importance of West Virginia's natural resources and the State's tourism industry. At the same time, they gain understanding of the importance of staying and investing in the State and developing a deep connection to West Virginia. Many citizens who have remained within the borders to make a difference as community leaders and invest a lifetime of commitment to betterment for the State, began as park or forest student employees. Seasonal staff, who often return for employment annually, provide needed assistance as building and grounds maintenance, housekeeping, front desk clerks and office staff. Our mixture of full-time, seasonal and summer employees contribute greatly to the efficient and effective operation of the system.

In addition to the staff working directly for the Parks and Recreation Section, the Economic Impact Study (discussed later in this report) revealed that the economic activity stimulated by visitation to a state park or forest supported approximately 3,209 full-time equivalent jobs in the state in FY17. The jobs resulted from the private businesses existing because a state park or forest operates in an area, such as an adventure outfitter utilizing a state park or forest, or because of the groceries, fuel, retail, restaurant and other



similar business utilized by state park and forest destination visitation. In terms of wages and income, the economic activity spawned by visitation to West Virginia State Parks and Forests was responsible for roughly \$91.6 million in salary income in FY17.

### **Education**

With nearly 100 years of operating West Virginia's state parks and forests, we have acknowledged that our mission needs to increase emphasis on education and interpretation. Park and forest superintendents successfully interpret the resources available on the areas along with providing a conservation message applicable to all the state's resources. To aid in this effort, naturalists and historical interpreters are employed. This past year there were eight full-time and 19 hourly naturalists offering a record number of programs to the visiting public. This education mandate is heavily aided by volunteer docents and interpreters ranging from museum guides to bluebird box builders and programmers.

The system offered more activities and events than ever before, concentrating largely, but not exclusively, on interpretation of flora, fauna and natural history. Programmers and naturalist are charged with implementing programs to include interpretive hikes, wildlife observation, water study, etc., and to engage visitors in discovering and understanding the outdoors through interpretative interaction. Energizing and encouraging families to get outside is a priority.

State parks and forests are visited regularly by school groups. The areas are considered an outdoor learning laboratory, always available for nature study, specifically providing preservation of rare threatened and endangered species in unique ecosystems. The system operates nine museums and seven nature centers open year-round. Other nature centers, visitor centers and museums operate seasonally through the summer naturalist program.

## **FINANCES**

---

### **Economic Impact**

The system commissioned a study to renew the understanding of the economic impact of West Virginia State Parks and Forests. A key finding of this study is that the total economic impact of the system annually ranges between \$160.5 million and \$189.5 million. Economic impact is a measure of fresh money infused into the State's economy that likely would have not be generated in the absence of the park system. In other words, in FY17, for every \$1 of general tax revenue provided to State Parks, \$13.15 on average was generated in fresh money that wouldn't be there if not for the operation of state parks and forests.

### **Expenditures**

The system employs a "User Pay-Public Benefit" model for operations. User fees for services and products generate revenue supporting the many public benefits provided by the system. Revenue generation accounts for 52.56 percent of needed costs for the system. The balance of funds for the system operation are provided by General Revenue, Lottery Account 3267 and Lottery Account 3277 (Park Improvement Fund). The FY17 total of all accounts equaled \$41,766,500. The General Revenue appropriation in FY17 was \$12,578,646 and is used solely for classified service salaries and benefits for majority of full-time staff within Parks. Lottery Account 3267 funds in FY17 were \$2,233,887 and are also used for Parks salaries and benefits plus a small portion legislatively dedicated to the Pricketts Fort Foundation. Lottery Account 3277 monies amount to \$5 million per year. Of this, more than \$3 million is used for routine repairs, and the remaining is used for equipment replacement and major repair to aging infrastructure.

### **Revenue Generation**

Revenue generated by the system operations is held within the Special Revenue 3265 Account.



Collections from FY17 ended approximately \$160,000 above last fiscal year for generated revenues. Revenues were affected significantly by the late June 2016 catastrophic flooding events at several areas. The flood event not only caused closures of facilities, but had long term effects as citizens canceled vacation plans and the actual and perceived ability to visit West Virginia. The increase in revenue can be attributed to the excellent effort by superintendents and staffs of having a focus of revenue generation and providing services, retail and facilities at the quality level to cause guests to visit and return.

### **Funding**

The greatest challenge facing the system is a lack of funding needed for operations. The 2009 Legislative Performance Review recommended an additional \$3 million for significant maintenance needs. Since 2009, however, new unfunded liabilities have increased and have exceeded \$3 million. These unfunded liabilities include funding for Affordable Care Act, minimum wage increases, OPEB, and payments to other state agencies.

Recent estimates show that approximately \$40 million in new funding is needed for major repairs and alterations to bring park facilities up to the standards expected by the visiting public.

### **Diversity**

It is important that the system cultivates a workforce representative of the people of West Virginia. To do so, Parks desires to increase the representation of minority groups in the workforce. There is a commitment to add employment minorities within the Division of Personnel framework that governs the selections for the classified service.

### **Americans with Disabilities Act (ADA) Compliance**

It is important that the system provides services, facilities and programs to all people in a safe and accepting environment. Most of the items identified in the original systemwide Americans with Disabilities Act assessment are complete while smaller additional and ever evolving needs remain and require funding.

## **INDIVIDUAL AREA AND SECTION ACTIVITY REPORTS**

---

West Virginia parks, forests, and state rail trails differ from those in most other states because of the added role in filling a local recreational niche not available from local government. Many communities in West Virginia cannot afford to provide the recreational opportunities such as tennis courts, swimming pools, picnic areas and similar items that are a primary responsibility of city and county government in other states, so over the years, this function has come to be expected from state parks. Because of this and other factors, requirements for maintaining the individual facilities are quite varied. Facilities range from the modern development at parks like Canaan, Pipestem and Stonewall to historical structures dating from the CCC days. Replacement and upkeep of aging infrastructure at various areas is a constant challenge. This section of the annual report will focus mainly on repair and improvement items.

### **Audra State Park**

Six new electric sites were installed in the campground, bringing the total to 13. Repairs were made to the Alum Cave Boardwalk, a major project that included new beams, handrails and footboards on the last quarter of the boardwalk. A Human Resource Development crew worked in the spring to remove several hazardous trees throughout the park and performed maintenance on the Alum Cave Trail. A new storage building was built at the maintenance garage.



### **Babcock State Park**

The park experienced extensive damage during the June 2016 flooding. Upper repairs to the Sewell Road washout and the Narrow-Gauge Trail were completed just in time for the Third Annual Sticks and Stones 15K trail race held Oct. 8, 2016. Park staff and volunteers worked to get the trail reopened for use. The major culvert washout, the large downed trees, and the large mudslides were all cleared and re-graded. Construction of a new wooden footbridge was completed to replace one that was washed away during flooding. A new wooden Glade Creek Grist Mill sign was erected and two new memorial benches were installed on the creek bank across from the grist mill.

Both scenic overlooks were cleared of vegetation for better viewing and overall aesthetic improvements. The section of stream bank below the Administration Building near the waterfalls was also cleared of brush to make a better view for photos and video opportunities.

Cabin improvements included new flooring, carbon monoxide detectors, new water heater covers, firewood storage sheds, campfire rings and new electric service to replace that damaged by a storm, exterior staining and one porch roof replacement. Wi-Fi services were installed in all 28 rental cabins.

Repairs were made to the Grist Mill sluice support foundations and work began to replace the sluice structure. The Boley Lake Dam was trimmed and cut back 25 feet of all brush and trees, as was recommended by the inspectors and lake restrooms underwent interior and exterior renovations. New signage was installed in preparation for the opening of the new group tent camping area. Babcock State Park hosted the 13th Annual Grist Mill Grinder, an event that has become one of the most popular trail racing events in West Virginia.

### **Beartown State Park**

Several dead hemlock trees were removed and broken boards were repaired on the boardwalk. The old vault toilets were torn down, and a new toilet building was constructed and painted.

### **Beech Fork State Park**

Steel fire rings wrapped in stone masonry were equipped at all six cabins. High definition (HD) televisions were installed in the three bedroom cabins. Three cabins received new exterior stain and four cabins had hardwood flooring resurfaced. The stainless-steel pool gutter seams were repaired by maintenance staff that provided a significant cost savings. A new concrete handicap accessible walkway was installed between the boat dock rental building and the pier. The Old Orchard and Four Coves bathhouses received new exterior paint. The project was completed by volunteer campground hosts. The annual Heron Festival and Make It Shine Clean-up events were held with tremendous turn out.

### **Berkeley Springs State Park**

A new four-inch water main and two-inch tap were installed from the Berkeley Springs Water Department to the park. The Old Roman Bathhouse received repairs and new paint. During a March storm, the Main Bathhouse chiller was damaged and replaced after several fallen trees were removed. Special events hosted at the park this year included: The Apple Butter Festival; Summer Concert series; Art in the Park; Mountain State Cruisers car shows; Morgan County Master Gardner Plant Fair; annual Easter Egg Hunt; Morgan County Back-to-School Bash; and the Berkeley Springs Zombie Walk with several other weddings and pool parties.

### **Blackwater Falls State Park**

December 2016 marked the first time that Pendleton Lake was stocked with trout. Blackwater Canyon was also stocked with more than 30,000 brown trout fingerlings from two stockings. Phase III of the sled run improvements was completed, which included a new parking lot with ADA accessible parking, a patio and fire ring. WVDOH paved park roads and parking areas. The hot tub at the lodge was replaced and computer chemical controls were added to both the pool and the hot tub. Two new retail spaces were opened—one at campground check-in station and the other in the Nature Center.

### **Blennerhassett Island Historical State Park**

The Blennerhassett Historical Foundation purchased two new concrete septic tanks to replace three that had been on the island for approximately 30 years. The maintenance crew completed a bat exclusion project at the museum with the use of the JLG lift from Pipestem Resort State Park. The Island Belle was dry docked for repairs and its five-year hull inspection. The sternwheeler also received two new hydraulic motors to replace the pumps that were at least 20 years old.

### **Bluestone State Park**

A major remodeling project to convert the activities building into the Fisherman’s Lodge included renovations to the main room, kitchen and dining rooms. A fireplace and television were added in the main room along with bead board and chair rail along the walls. The kitchen was completely upgraded with new cabinets, appliances and countertops.

### **Cabwalingo State Forest**

The floor refinishing project was completed and included sanding and several coats of wood finish to 15 cabins. Cabin 14 had new sidewalks poured in the front and rear sides. Cabin 3 was completely remodeled and reopened for the 2017 Labor Day weekend. WVDOH installed new directional signage and several trails that had not been used since the 1980s were blazed and cleared by park volunteers. The former assistant superintendent residence was renovated and added to the rental cabin inventory. Cabin 7 is currently being remodeled as part of an ongoing cabin upgrade project.

### **Cacapon Resort State Park**

Park headquarters and administrative offices were relocated to a newly renovated space at the lodge which included construction of a new conference room. The Old Inn interior was remodeled including a new kitchen, exposing and restoring the original interior log walls, and new HVAC units allowing for year-round rentals. Five new electric vehicle charging stations were set up at the lodge for guest use. A 5K cross-country course for use by Morgan County Schools and guests was created by volunteers and funded through donations. The park reduced total acreage of mowed turf by planting some wildflower meadows. Special events hosted at the park this year included July 4 Celebration, Irish Road Bowling, after hours summer beach parties, Homecoming, a Halloween Party, Pictures with Santa, New Year’s Eve Celebration, First-Day Hike, annual Easter Egg Hunt, Cacapon Foundation Gala, Clean Trail Day, Hike Across West Virginia, Pure 5K Run/Walk Race, and Fishing Derby Day.

### **Camp Creek State Park**

The park made history with the installation of the first ever GSAP (Global Sustainable Aid Project) Micro-flush Toilet in the United States, located at the pack-in campsite. This project was funded by the Bluefield and Princeton Rotary Clubs and the Camp Creek Park Foundation. With the foundation funding, staff were able to upgrade three sites to full hookup and an additional three sites to electric and water at the Mash Fork campground, as well as building a new overflow campsite with 50/30/20-amp service.



Maintenance projects included power washing and painting the exterior of the bathhouse and ballfield restrooms, installing metal roofing on the office restroom and pump house, and replacing the fencing around the office area. Through collaborative efforts between the Parks and Wildlife Resources sections, two orchards were planted in the forest area.

Special Events held at the park included the 30th Annual VIPP picnic, annual Fall Festival, 3rd Annual Spring Ramp Fest and Timber Sports Competition, and the early summer Pathfinders Event that serves school-aged individuals from ninth through 12th grades who have some type of disability.

### **Canaan Valley Resort State Park**

Canaan Valley is in its fourth year of the Resort Improvement Project with U.S. Hotel and Resort Management, the contract management company. With the additions of new lodge rooms, improvements to the ski area, and increased snow making capabilities, this project has been a huge asset to Canaan Valley Resort State Park. The newest addition to the park is the Paragliding Launch Site. The DNR has worked cooperatively with local paragliding enthusiasts, U.S. Fish and Wildlife Service, National Paragliding Association, Marshall University and the Canaan Valley State Park Foundation for more than five years on this project. The launch site, which was installed at minimal cost to the state, is on the backside of Weiss Knob at an elevation of 4,800 feet and is accessible from the ski area chairlift. It is the first official paragliding site in West Virginia. The first official flight took place in October 2016. All participants are required to have a valid paragliding pilot license which must be presented when purchasing the lift ticket to access the launch site. The project has been highly acclaimed by paragliding enthusiasts and has received incredible media coverage. In addition, the paragliding site provides a breathtaking overlook into the Dolly Sods Wilderness Area and has become a very popular site for weddings. This addition is expected to generate significant revenues for the park in the years to come.

### **Carnifex Ferry Battlefield State Park**

PEM Section, Wildlife Resources, and park staff have completed the sign shop expansion project. A 30-foot expansion was built on the existing sign shop which is now being used to store the plastic signboard material. Staff constructed a 65-foot run of steps, with various treated 6x6 cuts, on a steep eroded section of the Patterson Trail to compensate for the varying slope. A new shelter by the playground, was constructed using standing dead poplar trees for the posts and the bracing to give it a natural look. The shelter has been very popular for small family groups and birthday parties due to its proximity to the playground. The Sign Shop produced 2,031 signs along with assisting in other DNR projects.

### **Cass Scenic Railroad State Park**

The Country Store underwent remodeling to create a period-correct look to the signage and displays. Wi-Fi service was upgraded at installed at all rental houses, the Country Store and the restaurant. Several rental house bathrooms were renovated including tile replacement and upgraded electric. House 234 was fully renovated and added to the rental inventory. House 121's garage was converted to a vehicle maintenance facility with a workshop and car lift. The old wooden ramp at the Company Store was replaced with a concrete ramp. The loading dock at the laundry facility was removed and the area landscaped. Uneven concrete was removed from the visitors' center and a new gravel parking area created. Special events at the park included Cass Homecoming, Logging Days, Harvest Day Weekend, full moon hikes, a photography workshop, and both Halloween and Christmas events.



### **Cathedral State Park**

Cathedral received several improvements, including a new HVAC system was installed in the office/residence, a new footbridge was constructed on the Cardinal Trail, the maintenance shop was painted, and new swings and hardware were installed in the picnic area playground. The park hosted several special events, including a high school graduation, weddings, family reunions, birthday parties, a 4-H cookout, Wildflower Pilgrimage Tour and National Trails Day hike.

### **Cedar Creek State Park**

Cedar shake shingles, guttering, and downspouts on the campground check-in station and woodshed were installed. Repairs and upgrades were completed in the campground bathhouses including painting from floor to ceiling, new floor drains, new laminated partitions, shower fixtures and lights. Approximately 1500 feet of main power line from the superintendent's residence to the first bathhouse was replaced. Electrical upgrades were made at the park office and pool bathhouse allowing a generator to be hooked up to provide electricity during power outages.

Trail maintenance continues to be a high priority with all 14 miles of trails having been upgraded, signed, and color blazing being put in place.

### **Chief Logan Lodge**

Construction for three cabins began in early spring 2017 and is expected to be completed by late spring/early summer 2018. Electric vehicle charging stations were set up at the lodge and are available free of charge to anyone. Maintenance staff painted the swimming pool and spa areas and started replacing the standard lights in the guest rooms and public areas with energy efficient LED lighting.

### **Chief Logan State Park**

The major accomplishment at Chief Logan State Park for the fiscal year was the opening of the new connector road between the park and the conference center. This project begun several years ago and is now complete. The campground showers at the bathhouse were completely renovated. All buildings in the park were painted, mulch was placed all around the playground equipment, and the WVDOH paved roads in the park. Chief Logan was once again host for an Irish Road Bowling competition, the annual Sue Browning Wildflower Hike, The Aracoma Story Productions, Aunt Jennie Wilson Music Festival, a Civil War Reenactment, and Christmas in the Park.

### **Coopers Rock State Forest**

The old picnic loop was re-purposed as a rustic campground and named the Rhododendron Campground in honor of CCC Camp Rhododendron that built most of the structures in the forest. Work was completed on the sewage plant and campground dump station to reduce yearly maintenance costs. Early opening of the Trading Post and changes to campground reservations resulted in an increase in revenue and campground use. The Coopers Rock State Forest foundation's 10/50K race has continued to grow with more than 120 runners enduring a snow-covered course in April 2017.

### **Droop Mountain Battlefield State Park**

This season experienced several fallen trees and brush within the recreation area that required removal. Four restroom buildings were painted.

### **Greenbrier River Trail**

Contractors finished the major flood damage repairs on the southern 10 miles of the trail. Staff also made countless repairs including ditch line work, cleaning out and replacing, removing mudslide debris, and spreading miles of surface stone on the flood-damaged trail's surface.



### **Greenbrier State Forest**

Major flooding in June 2016 required extensive repairs which included: gutting and renovation of the assistant superintendent residence including replacement of the water lines; rebuilding the western service road; cleaning culverts and streams to restore water flow; and driveway and parking repairs in the cabin area, Rifle Range and Twin Pines Trailhead. Water line breaks were repaired in the cabin area and the campground. Mini-split HVAC units were installed in two cabins and the office. The ADA cabin received new flooring in the kitchen and bathroom. A new pool pump was installed at the swimming pool and a new motor and pump at the wading pool. Concrete tee pads were installed at the disc golf course. Special events hosted at the park were the 53rd Annual Show-Me Hike (spring wildflower hike), Greenbrier County Scout Day Camp, and the Civil War Re-enactment of the Battle of White Sulphur Springs.

### **Hawks Nest State Park**

A state of the art HVAC system was installed and services all the public areas throughout the west end of the lodge including four lodge rooms. The energy-efficient system replaced the unrepairable 50-year-old boiler. Maintenance staff installed LED lighting and acoustic ceilings in the lobby/front desk area. Transitioning to LED lighting is 85 percent complete.

The CCC-era Trading Post at the lower park received new vinyl flooring, acoustic ceiling tiles and LED lighting. Trees were trimmed and removed from area around the gift shop, picnic shelter, playground and parking areas. New steps were built from the Nature Center to the jet boat launch area using a treated lumber frame with a gravel base which has received positive feedback on the design and appearance of the new steps.

Electric vehicle chargers have been a big hit, prompting guests to map their route past Hawks Nest so they can stop for a quick charge while enjoying the beautiful scenery, gift shops and other recreational activities. New LED lights were installed at the charging stations and surrounding area to allow guests to utilize safely in the evening and night.

With dedicated refocusing, the Hawks Nest team won the Hospitality Award for the 3rd Quarter for the second time. Staff increased attention to detail, followed basic hospitality standards, and improved service delivery especially in the Conference Room.

### **Holly River State Park**

Projects for the fiscal year included installation of 600 feet of two-inch thick water line from the cabin area to the assistant superintendent residence. The pool filter room was replumbed and new filters installed. Both sewage treatment plants received upgrades. Wireless service was installed at the cabin and activity building areas. Sixteen miles of horse trails and three corrals were constructed at the campground. An additional 10 miles of trails are currently under construction during the reporting period. New energy-efficient windows were installed in the superintendent residence and work began on a new 2,000-gallon recovery tank for the existing well.

### **Kanawha State Forest (including Forks of Coal Natural Area)**

The Middle Ridge Trail Project and Recreational Trails Grant was completed October 2016. The final two-mile section of Middle Ridge Trail was extended bringing it off Middle Ridge to the forest entrance. Several fire rings in the campground were replaced and renovations began on the swimming pool bathhouse to convert it into a new office, nature center, museum and gift shop. The project is approximately 50 percent complete at the end of the reporting period.

### **Kumbrabow State Forest**

Outside decorative fire pits with grills were installed at all cabins. Three entrance signs and two directional signs were replaced after being vandalized. Stone work was repaired at the office entrance and porches of the superintendent's residence. Staff began work on a new set of stairs and boardwalk leading to Mill Creek Falls.

### **Little Beaver State Park**

Improvements to the main office building included a new door on the lower level, completion of the siding project, development of a new gift shop on the upper level and installation of a new HVAC system. The annual Migration Day Celebration was held in May and drew an estimated 500 visitors. The Annual Fishing Derby, held in June, had 190 children in attendance. Repairs were made to the main entrance gate, and a new sign was installed.

### **Lost River State Park**

Many unique and well-needed projects were completed at the park this past year. Cabin 1 had a CCC-built stone retaining wall reconstructed and Cabin 2 had an exterior porch built, exterior painted and a new foot bridge installed. Several renovations were completed at Cabin 4, including a new porch built, adding insulation in the ceiling, installing new kitchen cabinets and appliances, repainting the interior and exterior walls of the cabin, and upgrading the lighting. Outdoor fire rings were installed at each of the 26 rental cabins and a new firewood policy was established to allow staff additional time spent on cabin repairs and restoration. A new foot bridge was installed at the Lee Sulphur Springs entrance. The exterior of the historic Lee House was painted, and many of the building's windows were repaired. Attractive wooden shelves, from reclaimed wood, were built and added to the gift shop area at the main park office.

### **Moncove Lake State Park**

The campground registration building was remodeled with a 120-square foot addition, and a new camp store was opened that is fully stocked with snacks, beverages, gifts, souvenirs, fishing and camping supplies, and other necessities. Park revenue increased significantly with this addition. Staff built a new mobile youth archery range consisting of two covered archery targets that can be rented. The swimming pool deck area was upgraded with modern deck lounge chairs. Electric service to the lower campground was completed.

A park foundation was initiated and has become active in assisting with park projects. Future construction of a park amphitheater, obtained from a grant, will enable the park to host events throughout the summer months. Special events hosted at the park include the annual Kids Fishing Derby, antique car show, 4th of July weekend "Picking in the Park" music festival, Labor Day Weekend Pool Party, and the JAKES Day event sponsored by the National Wild Turkey Federation.

### **North Bend Rail Trail**

An approximate \$2 million DOH grant for surface and drainage was started during the fiscal year, with a completion date of mid-October 2017. The work is primarily in Doddridge County with an estimated 1-mile of improvements being made in Salem, Harrison County. The trail has been awarded an additional \$100,000 that will be used to repair the Eastern trailhead at Wolf Summit. Staff installed four rustic campsites located just outside the park, and installed a bike repair station and information kiosk at the Petroleum shelter. The NBRT Foundation funded construction of two new kiosks in Happy Valley, at the Western trailhead, and in West Union. The Doddridge County Historical Society installed a kiosk in Central Station and an additional two are scheduled to be installed at Salem and West Union.



### **North Bend State Park**

Upgrades were made to River Run Campground, including grading and installation of culverts and dry sumps and installation of a new service entrance with placement of conduit underground. Work on the water system included upgrading ¼ mile of main water line and placing casings under the roads. The electric and water upgrades are expected to be completed by the end of 2017. Staff implemented a reduced mowing plan that ended or reduced mowing of several hundred acres with a program to reintroduce various native plants, including warm-season grasses and wetland plants.

Programming continues to be a strong point for North Bend, including the Quest program, which is a three-year pilot project. The Parks and Recreation Section believes that this can be developed into a full-time, profitable amenity for guests.

### **Panther State Forest**

Group Camp received an upgrade that included all new appliances, dishware, utensils, pots and pans, furniture, light fixtures, painting, siding repairs, exhaust fans, two new doors and cement repair. A new roof was put on a section of the bathhouse at the pool and all hiking trails were cleared.

### **Pinnacle Rock State Park**

Staff completed welding repairs on standup grills and the handrail that leads to the overlook, for guest convenience and safety. All brush and small trees were removed on the effluent of Jimmy Lewis Lake. Staff repaired and painted the trash racks on the overflow of the dam.

### **Pipestem Resort State Park**

Renovations were completed at Wings and Swings which included new hardwood floor, stone bar area, televisions, tables, chairs and lighting. Painting of McKeever Lodge was completed. Solar power lights were installed along the seating area at the Amphitheater. Structural stabilization projects were completed including the deck areas on each side of the Black Bear Snack Bar. Three tennis courts were prepped and painted. The 2nd Controlled Deer Hunt was conducted. New hardwood floors, tables, window treatments, captain chairs and decorative oak walls transformed the Maple Conference Room into an upscale Board Room. Restrooms at The Bluestone Dining Room were given a fresh new look with new ceramic tile, sinks, mirrors and stall dividers. Outdoor speakers were installed under the portico at McKeever Lodge. The Pro Shop Lounge received new carpet, furniture and a flat screen television and the Pro Shop roof was replaced. Installation of septic tanks in the cabin area was completed. Repairs begun on the five-year plan for the aerial tramway and work on the Department of Environmental Protection grants commenced with the replacement of 20 LED parking lot lights.

An International Bowhunting Organization shoot was held at Pipestem with a large turnout of competitors and spectators. Fly Rod Chronicles host Curtis Fleming was on site filming for an episode that will air in January 2018. Pipestem hosted the annual ESCAPE conference. Many participated in the annual golf invitational.

New activities, amenities and services for the park include shuttle service for guests, open mic night at Wings and Swings, a new 3-D archery course was added and a new XM radio/speaker was installed at the Bluestone Dining Room for guest listening. Two universal electric and a Tesla car charging stations were set up at McKeever Lodge. An ice cream shop was opened, with a classic '50s-'60s theme, located at the top of the tram along with Mountain Creek Outfitters shop. Wireless services were added at the cottage area and Nature Center.

### **Prickett's Fort State Park**

The park hosted several free outdoor concerts and a two-week showing of "To Kill a Mockingbird" this summer at the amphitheater. Along with their normal presentations, the interpretive staff had guest speakers and special displays centered around the theme of "African American Experience on the Western Virginia Frontier." The roof on the boat launch restroom was replaced with assistance from the Pricketts Fort Memorial Foundation. Cedar shingle roofs were replaced on three of the cabins within the fort.

### **Seneca State Forest**

The fire tower continues to remain a popular overnight destination, achieving an 82 percent occupancy rate. More than 10 miles of trails were cleared by volunteers and several dead trees were removed from around the cabins, maintenance and campground areas. Fire rings were installed at three cabins, new sinks were installed in Cabins 1 and 5, and the fireplace brick was replaced in Cabin 1.

### **Stonewall Resort State Park**

For the 15th consecutive year, Stonewall Resort State Park received the prestigious AAA – Four Diamond Award for Excellence. During the reporting period, the resort switched from using the self-operated water treatment plant to produce drinking water to purchasing water from the newly installed public water system in Lewis County. This included draining, sandblasting, cleaning and repainting the resort's large water storage tank. A \$4.5 million renovation project has begun with a scheduled completion date of late 2017. This renovation project includes flooring, furnishings, lighting and more for the cottages, lodge rooms, lobby and restaurants. A new 120-foot dock, which will accommodate 12 boats, was installed in the cottage area for exclusive use of registered cottage guests. The three oldest lift stations were completely rebuilt this past spring and are functioning properly. The annual National Hunting and Fishing Days celebration remains one of the largest events at the resort and highlights the cooperation among all sections of the Division of Natural Resources.

### **Tomlinson Run State Park**

The men's and women's bathhouses at the Group Camp were re-shingled, and new barrier posts were installed to keep vehicles out of the yard. New gate barriers were installed at the Boy Scout rustic camp. Several repairs were made to the campground sewage plant, including a new filter bed sewage diverter box and piping. The park foundation received a \$25,000 donation to purchase all new beds and mattresses for the Group Camp, a project that is scheduled to be completed by spring 2018. Several new turf disc golf tees were added.

### **Tu-Endie-Wei State Park (Point Pleasant Battle Monument)**

A new roof was installed on the restroom/maintenance shop building. Plans were initiated to begin replacing logs and chinking on the Mansion House Museum in the next fiscal year.

### **Twin Falls Resort State Park**

The Golf Course Pro Shop was remodeled with ceramic tile floor, wood veneer walls, and a suspended ceiling with all new LED lighting, in addition to a new office. Cabin 12 received a new metal roof with a large portion of the wood sheathing replaced, a new deck with accessible ramp, and the interior of the cabin was painted. The underground electrical service for four cabins was replaced with new wiring, conduit and switch gears.

Four electric car charging stations were set up at the lodge that required 450 feet of electrical wiring and conduit to be installed. A retaining wall was built beside the Oak Room, a 48" culvert was replaced on the golf course, and a new graveled parking lot was built near the ball field. Approximately 1,000 feet of internet cable was installed in conduit to the new Nature Center. The park maintenance department assisted the gas company with relocating 800 feet of gas line to allow for parking lot construction.



### **Tygart Lake State Park**

Tygart Lake State Park opened the swimming pool, at no charge, with a “swim at your own risk” operation resulting without incident. The swimming area and kayak rentals both were in high demand this past reporting period. A new 12-foot Amish-built gazebo was installed on the lake front side of the Lodge. The gazebo has a beautiful unobstructed view of the lake and the marina serves as new attraction for destination weddings.

A local raptor rehab center released a rehabilitated bald eagle that had recovered from injury. The event drew several hundred people.

Tygart Shores was awarded the new restaurant concession and opened in April 2017 with a portion of the dining area remodeled. At the park office, the gift shop was renovated and converted into a front office with a conference room for staff trainings. The Nature Center remodeling project was completed and lodge rooms received a makeover, including new duvets, bed skirts, bed scarves, pillows, shower curtains and Keurig coffee makers. The lodge also set up an electric car charging station for guests.

Staff painted numerous park buildings and remodeled the interior of the campground bathhouse. Four cabins received bathroom renovations.

### **Valley Falls State Park**

All hiking trails were upgraded from painted trail blazes to plastic sign blazes. A bridge damaged by a falling tree was repaired. Park signage was upgraded with new signs and posts. Repairs were made to a support wall in the maintenance area. A large equipment storage building was moved from the park entrance to the service area where it is centrally located to reduce wear and tear on equipment. The former location of the building was converted to a small parking lot for the park office staff. The park hosted an annual car show, two mountain bike races, and a kayaking event.

### **Watoga State Park (includes Calvin Price State Forest)**

The park offices were moved to a new location within the Administration Building that was once occupied by the restaurant. The new space also accommodates the front desk, a public Wi-Fi area and gift shop. Twenty campsites at Riverside Campground were improved by leveling and graveling the surface. New fascia boards and gutters were installed on seven park buildings, and 10 buildings and park structures were painted. The swimming pool received a new water slide, solar water heater and new deck furniture. Major upgrades to the electric service at the picnic shelter were made. Several trees were removed from around the Administration Building and cabin area.

### **Watters Smith Memorial State Park**

Six structures in the historical area received new siding, roofs and additional stabilization and the farm barn, located near the museum, was contracted for repairs. Staff were able to place hand-cut stones under the structure and replace the roof. The Activity Building roof was replaced with new gutters installed. A new information board and playground borders were placed in the area adjacent to the building. A new bike repair stand was installed at the bike wash station.

Ash tree removal dominated much of the fall, winter, and early spring months with more than 30 trees being removed from one area and countless from park trails. This work will continue over next few years as trees continue to succumb to the emerald ash borer.

The park hosted several events, including the annual mountain bike race, JAKES Day and a new trail race.

# Planning/Engineering/Maintenance

## OVERVIEW

---

The Planning, Engineering and Maintenance section (PEM) serves the Division of Natural Resources through many functions. PEM is responsible for the proper planning of all significant capital improvement projects as well as major maintenance projects; all construction or consulting related to bidding documents and overseeing their ultimate proper disposition through the Division of Purchasing; and represents the Agency as the owner for all significant construction and architectural/engineering projects by providing administration for these contracts.

The Planning Engineering and Maintenance section is also tasked with assisting in and ensuring the compliance of federal and state environmental regulations by all sections of the DNR. We maintain the Agency's West Virginia National Pollutant Discharge Elimination System permits and provide support to the sub agencies in their compliance, record keeping and reporting.

PEM provides technical support primarily to the Parks and Recreation and Wildlife Resources Sections, but also to Administration and Law Enforcement Sections as well. This support includes technical advice for building maintenance and improvements, environmental compliance, water and wastewater treatment and infrastructure repairs and improvements.

The Office of PEM is responsible for monitoring and maintaining certain systems as they relate to public safety. Proper inspection, maintenance and repairs are required to maintain public safety for the agencies dams, ski lifts, aerial tramway, surface lifts and nautical vessels. This very important function of PEM is accomplished by striving to ensure compliance with codes and standards more stringent than state code in many instances.

PEM also works with the Federal Emergency Management Agency and the State Division of Homeland Security following the occurrence of a state disaster to submit reports of damages and to see that the damages are repaired and the state is properly reimbursed.

### **Substantially Complete Projects as of June 30, 2017 (completed between June 2016 and June 2017)**

- Blackwater Falls hot tub repairs
- Blennerhassett Island boat dock facilities
- Blennerhassett Island museum garage roof
- Cacapon Old Inn restoration
- Cacapon State Park Old Inn windows
- Carnifex Sign Shop addition
- Chief Logan concrete toilet install
- Chief Logan lodge HVAC repairs
- Coopers Rock water line
- Coopers Rock water well
- Emergency repairs to Island Belle sternwheeler
- District 5 office full duplex data circuit
- District 5 additional garage door opening
- District 5 office site improvements
- Moundsville boat dock
- North Bend State Park Campground improvements construction
- North Bend Rail Trail emergency erosion repairs
- Pipestem cottage roof materials
- Pipestem Lodge Structural Repairs
- Pipestem tram repairs

### **Planning, Engineering and Maintenance Section**

Bradley S. Leslie,  
*Chief Engineer*

### **Design Projects completed as of June 30, 2017**

- Chief Logan pool repairs
- Claudia L Workman Wildlife Education Center
- Conaway Run dam repairs
- District 5 office buildout
- Elkins Operation Center generator
- Forks of Coal infrastructure development
- Greenbrier State Forest cabin area reservoir liner design
- Hawks Nest CCC museum repairs
- Hawks Nest Lodge structural repairs
- Lost River water line replacement
- Moncove Lake Waste Water Treatment Plant design
- North Bend beautification plan
- Roof replacement at Spring Run
- Tygart Lake State Park boat ramp
- Watoga model cabins design

### **Construction and Design Projects in progress by June 30, 2017**

- Apple Grove Hatchery replacement of EPDM - construction
- Beech Fork Campground electrical & wastewater upgrade - design
- Berkeley Springs main bathhouse remodel - design
- Berkeley Springs pool bathhouse roof - design
- Blackwater Falls boiler replacement - design
- Blackwater Falls Lodge front desk - design
- Buildings at Elk River WMA and Handley WMA - design
- Cabwaylingo cabin renovations - design
- Cacapon dams - construction
- Cacapon State Park Lodge renovations - design
- Cacapon State Park Old Inn renovations design
- Canaan copper removal system - design
- Cass copper removal system - design
- Chief Logan Lodge HVAC unit replacement - design
- Chief Logan State Park cabins access road construction
- Chief Logan State Park cabins construction
- Clements Tree Nursery roof repairs -design
- Edray Hatchery roof - construction
- Forks of Coal Nature Center design
- Greenbrier River Trail flood repairs - construction
- Greenbrier State Forest connection to PSD - design
- Greenbrier water system - construction
- Hawks Nest State Park Lodge emergency HVAC construction
- Hawks Nest tram tower inspection - design
- Holly River septic systems renovations - need A&E or in design
- Little Coal boat ramp & parking - design
- Palentine Park boat dock construction
- Palestine Hatchery design
- Palestine Hatchery water supply repairs - construction
- Panther group camp roof replacement - design
- Pipestem cabin area WWTP replacement - construction
- Pipestem campground electrical and waste water upgrade - design
- Tate Lohr Hatchery pump and intake construction



- Pipestem Pro Shop roof construction
- Pipestem tram gearbox rebuild - design
- Plum Orchard Lake dam - construction
- Ridge Hatchery well and pump - construction
- Seneca Water conditioning system - construction
- Statewide picnic shelters design
- Tomlinson Run wastewater connection to PSD - design
- Twin Falls Structural repairs construction
- Upper Mud River managers residence roof
- Watoga State Park Riverside Campground WWTP replacement design
- Watters Smith barn stabilization construction
- Watters Smith pool demo construction
- Winfield and Huntington boat ramps - design

# Wildlife Resources Section



## Wildlife Resources Section

Paul Johansen, *Chief*

The Wildlife Resources Section (WRS) is responsible for the management of the state's wildlife resources for the use and enjoyment of its citizens. The primary objective of the Section is to maintain and perpetuate fish and wildlife at levels compatible with the available habitat, while providing maximum opportunities for recreation, research and education.

## ADMINISTRATION

---

### Outreach

The Wildlife Resources Section's staff devoted considerable time assisting conservation and civic clubs, schools and communities with various wildlife related inquiries and informational needs. These activities included working with the following organizations and events: Boy Scouts, 4-H clubs, envirothon events, sportsmen's clubs, hunting and trapping-based clubs, nature tours, outdoor and hunting shows, fairs, training schools and the National Hunting and Fishing Days Celebration. Cooperation was given to universities and colleges by serving as guest lecturers. The agency worked in close cooperation with the West Virginia University Extension office in conducting "Venison 101 Workshops" around the state. More than 150 classes and lectures on conservation were presented and more than 100 sportsmen's groups meetings were attended. Numerous interviews were given to the TV, radio, and print media.

In FY 2017, 209 hunters had their deer scored by an official WVDNR scorer. During the 2016 hunting season, 95 bucks met requirements of the West Virginia Big Buck Certification Program. An additional 13 bucks from previous years met requirements for a West Virginia Big Buck Certificate. There are 18 WVDNR wildlife biologists and wildlife managers throughout the state who are certified as official scorers by the Boone and Crockett Club and/or Pope and Young Club.

On March 13-14, public meetings were held at 12 locations around the state to present proposed regulation changes to hunters, anglers, and other interested individuals. These meetings provided an opportunity for the public to interact with agency personnel, provide recommendations and ask questions that related to these regulation proposals and other agency programs.

Special youth hunting opportunities were provided for waterfowl, squirrel, turkey and white-tailed deer. These hunts provided excellent opportunities to introduce youth hunters to the Mountain State's rich hunting heritage.

The West Virginia State Wildlife Center continues to excel as an outdoor educational facility. More than 35,959 visitors and 137 schools, churches and other groups visited the facility in 2016 and enjoyed learning about West Virginia's diverse wildlife of both past and present. The facility also offered several special events, including Groundhog Day, West Virginia Day, and new event "Rendezvous." It is a primitive camp-style that provides visitors with an interactive glimpse into more than a century of primitive living.

Staff conducted or assisted in more than 12 fishing education events involving more than 1,000 participants. These events included National Fishing and Boating Week, Hooked on Fishing Not on Drugs, Outdoor Classrooms, and Becoming an Outdoors-Woman.

Information and Education staff gave 15 presentations to approximately 1,070 people. Staff also worked at Junior Conservation Camp, and wrote and administered the Wildlife Exam for the West Virginia Envirothon. Personnel edited, proofed, and updated the hunting and fishing regulations in print format and on the website. Staff reviewed and coordinated web updates for the section and helped with writing, editing, and proofing the West Virginia Wildlife Calendar, legislative rules and with the publication of various brochures.

Lottery proceeds were used to place advertisements with radio, television, newspaper and magazines to promote hunting and fishing throughout the state, the National Hunting and Fishing Day event, and the West Virginia State Wildlife Center.

WRS sponsored and provided ideas, technical assistance, and interviews for West Virginia Wildlife, a weekly, 90-second TV segment shown on six newscasts on two stations in the Charleston-Huntington-Beckley market. The shows can also be viewed on the WCHS-TV website. The West Virginia Outdoors and DNR Report radio programs with Chris Lawrence were broadcast over 17 MetroNews-affiliated stations throughout the state.

### **Capital Improvements**

The WRS continued its successful capital improvements program to enhance opportunities for hunters, anglers, and other wildlife recreationists. Funds for capital improvements are primarily derived from 10 percent of the hunting and fishing license revenues and from the purchase of Conservation Stamps by licensed hunters and anglers. This program is one of the most visible efforts of the agency providing facilities such as wildlife management areas, shooting ranges, fishing and boating access sites, physically challenged accessible hunting and fishing facilities, fish hatcheries and dam improvements.

The year's major projects were:

1. Completed construction of a three-lane boat ramp and associated parking area at Palatine Park in Fairmont, Marion County.
2. Acquired approximately 150 acres of land for access to the wild trout population in Spring Run near Dorcas, Grant County.
3. Upgraded public access to the Cheat River at Holly Meadows by expanding the parking lot and carry down path near Parsons, Tucker County.
4. Improved access to the Ohio River by installing a universally accessible courtesy dock at Moundsville Fishing and Boating Access Site, Marshall County.
5. Installed improved shoreline fishing access on dams while upgrading the dams to comply with the West Virginia Dam Safety Act at Cacapon Resort State Park Lakes, Morgan County.
6. Improved boating access by adjusting the slope of the launch ramp and paving the parking area at Warden Lake, Hardy County.

### **West Virginia's Archery in the Schools Program**

The WVDNR began the Archery in the Schools (AIS) pilot program in the fall of 2004 with 19 schools. In 12 years of operation, it has exceeded all expectations, reaching more than 325 schools. The agency's Law Enforcement Section began teaching the Basic Archery Instructor Training classes in Spring 2016. During FY17, DNR hosted eight Basic Archer Instructor trainings adding an additional 89 teachers to the program. The 2017 Archery in the Schools State Qualifying Virtual Tournament was held with 1,179 students from 64 schools participating. Of these participants, 515 students from 52 schools participated in the state tournament held at the Charleston Civic Center. West Virginia had 337 students from 29 schools participate in the National Archery in the Schools Tournament in Louisville, Kentucky. Additionally, five students representing four schools participated in the World Tournament held in Orlando, Florida.





### **Hunters Helping the Hungry**

The Hunters Helping the Hungry (HHH) Program is a cooperative effort involving the WVDNR, the Mountaineer Food Bank, The Facing Hunger Food Bank, the hunting community, meat processors, and a statewide network of more than 600 food pantries, shelters, churches, children's homes, and similar groups. Since its inception in 1992, the HHH Program has provided 941,066 pounds of venison to the state's hungry. In 2016 alone, generous hunters donated 649 deer (23,716 pounds of nutritious venison that contributed to approximately 31,620 family-style meals). 2016 program costs (e.g., processing and transport) were \$47,485.68, and many of these costs were offset by a grant from the West Virginia Department of Health and Human Resources, donations from the annual "Share the Harvest Sunday" and "Governor's One Shot" fundraisers, and the generosity of private individuals. The WVDNR is prohibited from using license revenue to fund the HHH Program and must rely upon these funding sources to successfully operate the program.

### **National Hunting and Fishing Days — Stonewall Resort State Park**

West Virginia's Celebration of National Hunting and Fishing Day is like no other event held in West Virginia, with hands-on learning opportunities for youth and adults in the area of wildlife and outdoor recreation. The WVDNR teamed up with the West Virginia Wildlife Federation to promote this important event. More than 7,000 wildlife enthusiasts were in attendance to try their hand at everything from archery, rifle and shotgun shooting, fly-fishing, and bow fishing, to list only a few activities. In addition, attendees also had the opportunities to sit in on several wildlife demonstrations or visit one of the approximately 75 vendors on hand.

### **Outdoor Youth Challenge**

The Outdoor Youth Challenge (OYC) is one of the most important events held annually at West Virginia's Celebration of National Hunting and Fishing Day. During the two-day 2016 event, more than 950 young people were exposed to a multitude of activities and displays with hands-on learning and instructional opportunities that encourage them to gain important knowledge and experience about wildlife, hunting, fishing, firearms safety, and outdoor recreation. Youth can choose to participate only or they can compete. For some youngsters, this is the only opportunity they have to be exposed to these fun and exciting outdoor activities. Hundreds of door prizes were given out, with two lucky recipients receiving a combination lifetime hunting, trapping, and fishing license. WVDNR Law Enforcement personnel coordinate the Challenge with the assistance of WRS personnel.

## **GAME MANAGEMENT**

---

The WRS Game Management Unit conducts habitat management and law enforcement activities on 91 Wildlife Management Areas (WMAs) and eight state forests totaling 451,380 acres. Acquisition of public lands and unique habitats (i.e., wetlands) continues to be a priority, especially in targeted regions of the state. Fee simple additions, which were previously under lease arrangements, were made to the Cheat River Canyon WMA (1,387 acres), Tomblin WMA (8,904 acres) and the Big South WMA (1,827 acres) totaling 12,118 acres. Additional acquisitions included a 1.02-acre tract at the Meadow River WMA and a generous gift of 634 acres in Mason County creating the Bright McCausland Homestead WMA. Unfortunately, the Elk Creek WMA (6,000 acre) lease agreement was not renewed. In addition, an extensive wildlife management program was conducted on nearly 1.1 million acres of national forest land (composed of 14 WMA units) located in West Virginia through a cooperative agreement with the U.S. Forest Service and WVDNR. State wildlife biologists and managers devote a significant portion

of their time reviewing national forest scoping notices, timber sales and providing technical input in the development of national forest plans. Management issues are closely reviewed to ensure that our fish and wildlife resources receive the maximum possible benefit. Joint meetings with the U.S. Forest Service, West Virginia Division of Forestry and the U.S. Army Corps of Engineers were held to coordinate management activities between the various agencies. Numerous land reviews and evaluations were conducted by the WRS during 2016-2017.

Management on the 91 WMAs and national forest lands is directed toward improving wildlife habitat for an array of species. Commercial forest management activities were conducted on 751 acres, generating 4.4 million board feet timber. An additional 336 acres of non-commercial cuts contributed to our young forest creation. Another 597 commercial sale acres is in the planning and marking stages. A total of 135 forested acres were chemically treated to enhance forest regeneration. Assessment of impacts and mitigation for oil and gas exploration activities on WMAs consumed a large amount of personnel time.

Management activities on state and national forest lands included planting 64 trees and shrubs for food and cover and pruning, releasing and/or grafting 14 acres of trees and shrubs.

More than 3,228 acres of wildlife clearings were mowed and 16 acres of new clearings were established. Lime and/or fertilizer were applied to 614 acres, and 423 acres were seeded to herbaceous vegetation including dove fields. Prescribed burning was used to retard vegetation succession and improve the diversity and abundance of desirable plants on 382 acres. Herbicide was used on 826 acres of field and forested habitat to control undesirable/invasive vegetation. Sharecropping agreements with local farmers were executed on more than 1,000 acres to maintain open land habitat; 74 waterholes were maintained and eight new waterholes were developed to provide a year-round water supply for wildlife.

Water levels on 136 acres of wetlands were manipulated to encourage waterfowl utilization. Ninety-eight (98) waterfowl and 33 other species nest structures were maintained.

A total of 620 miles of roads, 176 miles of trails and 15 bridges were maintained. Road closures were installed and/or maintained at 543 sites.

Numerous information and regulation signs were erected or maintained. Three hundred and twenty-seven (327) campsites, 22 boat ramps, 25 shooting ranges, 26 physically-challenged hunter access roads, and 184 parking areas were maintained for public use and one new one was constructed.

The highly successful controlled waterfowl hunting program at the McClintic and Greenbottom WMAs continued to provide quality waterfowl hunting for West Virginia hunters. Approximately 41 waterfowl ponds and 22 shooting stations are maintained on the McClintic WMA, including two shooting stations for the physically challenged. A special controlled dove hunt was held on the South Branch WMA.





## **Wildlife Damage and Nuisance Activities**

Fifty-one (51) nuisance bears were destroyed and seven were relocated. Hundreds of other bear complaints were resolved with harassment measures and/or removal of edible attractions. One hundred sixty-nine (169) bear damage claims were processed.

Literally thousands of additional calls regarding sick, injured or nuisance wildlife are handled annually. Calls about nuisance wildlife are often resolved by providing technical advice and recommendations but many require capture and relocation or euthanasia of the offending animal.

The Wildlife Damage Control (WDC) agent program allows for businesses to be licensed with the DNR to take and dispose of wildlife found to be creating a nuisance in and around homes, businesses and other places where the presence of wildlife may be a nuisance. Thirty-two (32) businesses were licensed by DNR during 2016 as WDC agents. The DNR is assisting the USDA-APHIS Wildlife Services staff on a feral swine control program in West Virginia.

## **Environmental Reviews**

Wildlife biologists reviewed numerous projects that potentially affect wildlife and their habitat. Primary concerns are road construction, stream alteration and water withdrawals, hydropower projects, power line rights of way, gas line construction, oil/gas well sites, surface mines and other construction projects. In numerous cases, recommendations have been made to alter project designs, thus reducing negative environmental impacts to fish and wildlife habitat and populations, as well as unique plant communities.

## **Technical Assistance**

Interest in managing private lands for wildlife continues to increase, and biologists are frequently contacted for technical assistance. Assistance ranges from general advice over the telephone to providing specific management recommendations to completing detailed site specific management plans. Approximately 598 staff days were spent providing technical assistance to private individuals and landowners in 2016-2017.

## **Regional, National and International Coordination**

Many of the challenges and issues facing the WRS's Game Management Unit are shared by other states and agencies. Several regional, national and international organizations exist to promote information exchange and multi-jurisdictional coordination. The WRS is an active member/participant in many of these organizations and their various committees. Notable organizations include: Association of Fish and Wildlife Agencies, Southeastern Association of Fish and Wildlife Agencies, Northeast Association of Fish and Wildlife Agencies, The Wildlife Society, Atlantic Flyway Council and Technical Sections, Southeast Deer Study Group, Southeastern Cooperative Wildlife Disease Study, Eastern Elk Management Workshop, Eastern Management Unit Dove Technical Committee, and Appalachian Mountains Joint Venture.

## **Wildlife Population Surveys and Research**

One (1) modified dove coo call count survey and 25 singing ground survey routes for woodcock were conducted in cooperation with the U.S. Fish and Wildlife Service. A ring-necked pheasant survey was conducted on the Hillcrest WMA. Canada geese and mourning doves were banded in cooperation with the U.S. Fish and Wildlife Service, Atlantic Flyway States, and the Eastern Dove Management States to monitor populations and to establish regulations. Three hundred ninety-one (391) mourning doves and 601 Canada geese were banded in 2016-2017 as a part of this effort. Black duck surveys were conducted in cooperation with West Virginia University and the Pennsylvania Game Commission.

Harvest and biological data were compiled and analyzed for hunter-harvested big game species (e.g. deer, turkey, bear and wild boar) as well as hunter and trapper-harvested furbearers (e.g., beaver, fisher, bobcat and otter).

### White-tailed Deer

West Virginia continues to be one of the favorite deer hunting grounds in the eastern United States. In 2016, deer hunters harvested a 112,384 deer in the combined deer seasons. This is a 19 percent decrease from the 2015 harvest of 138,493 and 15 percent less than the previous five-year harvest average of 132,466. The combined deer season harvest for 2016 is the 29th largest total deer harvest on record for West Virginia. The 2016 total deer harvest represents one deer killed for every 131 acres of deer habitat in the state, and a 56 percent harvest decrease from the record harvest of 255,356 deer in 2002. From 1945 through 2016, 6,246,909 deer have been recorded as harvested in West Virginia. Fifty-three percent (3,334,349) of the total recorded deer harvest of the past 71 years has occurred in the past 20 years.

Hunters took 729 deer in the 2016 special urban deer season. This special archery deer hunting season is available to incorporated cities and homeowner associations, which may open three weeks prior to the opening of statewide deer archery season and close December 31. During this special season, seven deer may be taken which do not count toward the regular archery deer season bag limit. This is the 13th year that homeowner associations have taken advantage of the special urban archery deer season to address deer population management.

In the special split Youth, Class Q/QQ and Senior Lifetime Class XS deer season, 1,767 antlerless deer were harvested. This season was open on private land and public land in any county open to a firearms deer season Oct. 15, 2016, and again Dec. 26 and 27, 2016. This was the 19th year a Youth special season was held. To participate, hunters had to hold a Class Q license, or be a youth at least eight and less than 18 years of age on the day of the season, or possess a Senior Lifetime Class XS license. Youth hunters, age 8-14, must be accompanied by a licensed adult at least 21 years of age and youths age 15-17 must comply with all regular season license requirements for junior sportsman hunting or hunt with resident landowner privileges. The 2016 season was the seventh year for participation by the 15-17 age youths and the fifth year for participation by Class XS license holders. The daily bag limit was one antlerless deer, which did not count against the hunter's annual antlerless deer season bag limit. Hunters harvested 1,150 deer on the first day, October 15th and an additional 334 and 283 deer on December 26th and 27th, respectively. Overall, the harvest for the 2016 special Youth, Class Q and Senior Lifetime Class XS deer season decreased 38 percent from 2015. The harvest for the 2016 first day was down 42 percent from the first day of the 2015 season and the second and third days of the 2016 season were down 25 percent and 36 percent respectively, from the reported harvest in 2015.

A special controlled deer hunt was held Nov. 3-5, 2016, at Pipestem Resort State Park. Twenty-three deer were harvested during the three-day hunt. This was the second year for such a hunt at Pipestem Resort State Park. It is anticipated that controlled deer hunts on four state parks will be held in 2017. All state park controlled deer hunts are by application only. Visit [www.wvhunt.com](http://www.wvhunt.com) to apply on-line. Deer are a keystone species in West Virginia's natural world and proper stewardship of our state's flora and fauna require that deer management be addressed on all lands.

Efforts to control the spread and monitor chronic wasting disease (CWD) in free-ranging deer in Hampshire and Hardy counties by WVDNR, landowners and hunters are ongoing. In the 2016 deer seasons, samples taken from 874 hunter-harvested deer brought to five DNR staffed stations in Hampshire County and four stations in Hardy County were tested for CWD. Thirty-nine samples were found to have the abnormal protein associated with CWD. CWD has now been detected in 231 deer in Hampshire County and four deer in Hardy County. Lowering encounter rates between infected and non-infected animals by prohibiting artificial supplemental feeding and baiting are generally





accepted management practices for slowing the spread of an infectious disease among wildlife and initiating these prohibitions on a statewide or regional basis for deer is a major tool used by other states combating CWD. Currently in West Virginia, in all of Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral and Morgan counties, it is illegal to bait or feed deer any time. In addition, hunters are prohibited from transporting dead deer or their parts beyond the boundary of Hampshire, Hardy, and Morgan counties except for the following: meat that has been boned out, quarters or other portions of meat with no part of the spinal column or head attached, cleaned hide with no head attached, clean skull plate (no meat or tissue attached) with antlers attached, antlers with no meat or tissue attached, and finished taxidermy mounts. The Virginia Department of Game and Inland Fisheries and the Maryland Department of Natural Resources have detected CWD positive deer adjacent to Hampshire County in Frederick and Shenandoah County, Virginia and Allegany County, Maryland. In addition, Pennsylvania Game Commission has detected CWD-positive deer in Bedford and Blair counties adjacent and north of Allegany County, Maryland. To reduce the risk of spreading CWD to new areas, other states have made it illegal to possess or use deer scents/lures that contain natural deer urine or other bodily fluids while taking, attempting to take, attracting, or scouting wildlife. All West Virginia deer hunters are urged to use caution in spreading natural deer urine-based lures in the environment and asked not to place deer urine lures on the ground or on vegetation where deer can reach them. For more information on CWD and the current status of the disease in West Virginia contact any WVDNR office or visit the WRS on the web at [www.wvdnr.gov](http://www.wvdnr.gov).

A bowhunter survey has been conducted annually since 1995. This cooperative venture with the West Virginia Bowhunters Association is an excellent means of monitoring populations of game animals and furbearers as well as providing a method for bowhunters to report their observations. The wild turkey fall harvest has been measured accurately by the survey.

### **Elk**

A five-year management plan was completed and approved that detailed the elk reintroduction guidelines that will act as a template for the project. Negotiations continued with several large land companies regarding gaining lands for elk release and public access. The first purchasing phase was completed, which consisted of acquisition of more than 32,000 acres of wildlife management area (WMA) within the Elk Management Region and transference of ownership of more than 10,731 acres to the WVDNR. Work has continued that will place the remaining acreage which is currently leased into permanent state control through an easement process.

A memorandum of understanding was signed with the U.S. Forest Service to capture and remove elk from the Elk and Bison Prairie at the Land Between the Lakes (LBL) National Recreation Area in Kentucky for stocking in West Virginia. Health testing and handling protocols were written and subsequently approved by the West Virginia Department of Agriculture and the U.S. Department of Agriculture (USDA). Twenty-four elk were captured at LBL, placed in quarantine, submitted to the required testing, and then transferred to the West Virginia soft-release enclosure on the Tomblin WMA in Logan County, West Virginia. After a short period in the enclosure the elk were released and allowed to freely roam.

Nineteen elk had working telemetry collars when released and are being monitored for survival and movement patterns. Four elk have died since release and have been recovered for complete necropsies performed by WVDNR and USDA staff. Compilation and storage of movement data is ongoing for future research needs.

Verbal agreement has been reached with Arizona to trap and transfer elk from their free ranging herd to West Virginia in early 2018. Work has begun on the protocols and procedures which will be required to complete this transfer.



## Black Bear

West Virginia hunters harvested 3,012 black bears during the combined 2016 archery and firearms seasons. This is the second straight year the harvest has topped 3,000. The harvest of 2016 was six percent lower than the record harvest in 2015 (3,201) and is the second highest bear kill recorded.

Two-hundred forty-four bears were killed on highways, died as a result of illegal or marauder activities, or succumbed from other non-hunting causes (electrocution, accidental poisoning, etc.). This is up 58 percent from the 154 non-hunting mortalities recorded in 2015. There were 108 deaths from vehicles in 2016 compared to 60 in 2015. The number of illegal deaths was down from 3 to 1 in 2015 and 2016, respectively. Miscellaneous deaths of 8 stayed the same in 2016. Bears killed for nuisance or damage activity (marauders), increased to 127 from the 83 reported in 2015. The combined seasonal and non-seasonal deaths of 3,256 is the second highest ever recorded in West Virginia.

## Wild Turkey

Spring gobbler season began in 1966 on wildlife management areas and went statewide in 1968. Spring turkey hunters harvested 11,539 gobblers in 2017, an increase of more than 11 percent over 2016. The harvest is the largest since 2006 when 11,735 birds were harvested, and is more than 18 percent above the 10-year average. Youth hunters harvested 458 turkeys during the one-day youth season on April 15.

The 2016 season ran from April 18 through May 14 and was 15 percent higher than 2015 with a harvest of 10,369 gobblers. It was the first time in recent history that the season started so early. In 2015, 58 percent of the harvest occurred in week one and 17 percent occurred the last two weeks, which was similar to past harvest trends. This distribution changed slightly this year because of the earlier opening with 52 percent of the harvest in week one and 23 percent of the harvest in the last two weeks of the season. Good weather, an earlier opening date, and a constant harvest throughout the season led to the higher total. The Youth Season accounted for four percent of the spring gobbler harvest, which was the same as 2015.

All counties had a fall season in 2016. Fall turkey hunters electronically checked in 2,066 birds this year. District 3 continued to lead the state in total harvest with 564 turkeys registered. District 1 was second (412) followed by District 4 (368), District 6 (275), District 5 (238) and District 2 (209). All the districts had higher harvests in 2016.

The survey of wild turkey broods is an important aid in forecasting the statewide harvests and changes in the wild turkey population. The increase in brood production corresponded to the 17-year cicada hatch of "Brood V." This increase in protein helped increase recruitment rates to a level not seen since 1999, the last cicada hatch. Spring turkey harvests should be higher in the western part of the state for the next few years as these poult mature into adult gobblers.

The spring gobbler survey was conducted jointly by the WRS and the West Virginia Chapter of the National Wild Turkey Federation. The survey serves as a means for hunters to report their observations and opinions about wild turkey management. It also allows biologists to track species throughout time and serves as invaluable tool to help monitor wildlife populations.





## Wild Boar

Boar were introduced in 1971 to supplement big game populations and did well enough to accommodate a hunting season in 1979. Harvests have ranged from three that year to 158 in 1995. The decline in the population since the late '90s led to the removal of the December season in 2003. The October firearms season is designed to reduce the harvest and allow numbers to improve and move into unoccupied habitats. Traditionally, hunters have been less successful during October when weather conditions are warm and dry and leaf fall makes boar sign more difficult to find.

Hunters killed 46 boars during the 2016 season. The harvest was down tremendously compared to the 99 killed in 2015. Mast conditions were very poor in 2015, which caused boars to travel and find food and then concentrate around those sources. In addition, the good reproduction because of the 2014 acorn crop contributed to the high success hunters had in the fall of 2015. The poor mast conditions of 2015 led to decreased reproductive rates in 2016. This factor, coupled with the increased mast conditions, led to a lower harvest in 2016.

## Annual Mast Survey

Annually during August, cooperating personnel in the WVDNR rate the abundance of mast produced by selected tree and shrub species. Mast indices are then formulated for each species on a statewide and ecological region basis. This survey has been conducted annually since 1970 and is important information often requested by hunters. Mast abundance is also an important tool to forecast the annual big game harvests.

Compared to the 2015 survey, the mast index for all species combined was down. Last year hickory and walnut were abundant, but this year they were much lower. Hickory produced less than half as many nuts in 2016. This year, indices for white and chestnut oaks are up. Compared to last year, indices for all oak species increased. Statewide, scarlet oak had the largest increase at 168 percent.

All soft mast except black cherry was below the 2015 production. Apple, yellow poplar and grape, three of the more important fall soft mast foods showed a dramatic reduction in production. Dogwood, crabapple and hawthorn also exhibited significant declines and will have an impact on hunting seasons and population dynamics this fall. Hunters, especially grouse and some other species, should take note of this information and look for areas of higher food abundance.

## FISH MANAGEMENT

---

The Fish Management Unit is responsible for providing fishing opportunities to meet recreational fishing demand and for protecting and managing more than 98,000 acres of rivers and streams and more than 22,000 acres of public impoundments. Fish management efforts extend from enhancing fishing through fish stockings and developing habitat and research projects in West Virginia waters.

To meet this challenge, the program is divided into six areas:

- 1) surveys and inventories of existing fishery resources, providing essential data to assess and develop management programs;
- 2) protection of fish habitat, placing intensive efforts toward review and comment on various state and federal permits for proposed activities that could possibly impact public fishing waters;
- 3) operation of nine fish hatcheries to enhance recreational fishing experiences through stocking;
- 4) enhancement and development of fish habitat and improvements to water quality for increased recreational fishing and restoration purposes;

- 5) development of public access to fishery resources, ensuring adequate public access to existing streams and lakes, and
- 6) outreach and information development, providing the public with material concerning fishing and fish management programs.

### **Fish Hatchery Program**

The fish hatchery program is responsible for the operation and maintenance of seven coldwater hatcheries, two warmwater hatcheries, and two grow-out facilities. The fish hatchery program provides fishes to West Virginia waters for the purposes of fisheries enhancement, sustainability, and reintroduction when warranted. The distribution of fishes from state hatcheries provides anglers with harvest opportunities beyond the sustainability of our natural systems.

### **Trout Hatcheries**

In 2016-2017 coldwater hatcheries in West Virginia stocked 1,007,867 trout weighing 765,867 pounds of catchable trout (Table 1). The 2016 – 2017 trout stocking season yielded over the goal hatchery production of 750,000 pounds. These trout were distributed to 73 impoundments, eight reservoir tailwaters, and numerous locations on 125 different streams and stream segments. Annual trout stocking distribution typically includes approximately 1,500 individual stocking runs annually.

The average size catchable trout stocked into put-and-take managed waters in 2016-2017 was 12.5 inches long and weighed 0.76 pounds. The larger-than-average trout size resulted from adequate hatchery water supply over the stocking period, which permitted trout to be transferred between hatcheries. Dividing trout between hatcheries reduced fish crowding and resulted in good growth rates. The federal hatchery at White Sulphur Springs was unable to provide trout during 2016-2017 due to flooding in June 2016.

Trout stocking also occurred in 11 Class Q waters which provides fishing opportunities for handicap and children age 10 and under. These special regulation waters were stocked the first week of March and additional stockings were made at some Class Q locations.

Thirty-four waters received two stockings each during a two-week period in October. The 2016 fall stocking totaled 41,758 pounds. The fall trout stockings are very popular and provide fishing opportunities through the fall and winter months until the spring stocking schedule begins.

Wild trout management continues to receive special attention in West Virginia. The program is divided into two major parts. Protecting and enhancing native brook trout populations and stocking fingerling trout to establish and maintain wild trout populations. In 2016-2017, 147,188 fingerling trout were stocked in various waters through the state. Assistance from various non-governmental organization groups and citizen volunteers are an essential part of the fingerling trout stocking program. Surplus rainbow fingerlings were also stocked in Stephens Lake of Raleigh County to attempt establishing a two-story fishery. A total of 21,642 surplus rainbow trout were stocked during 2016 and 2017. The wild trout program provides anglers with year-round recreational opportunities in areas of West Virginia previously lacking such angling opportunities.

### **Warmwater Hatcheries**

Warmwater hatcheries produced blue catfish, channel catfish, muskellunge, and striped bass during 2016-2017. A total of 533,964 fish were produced and stocked at various locations throughout the state (Table 2). The warmwater hatcheries produced and stocked both fingerlings and advanced fingerlings which have been documented to achieve a higher survival rate after stocking. Fewer fish were produced and stocked by the warmwater hatcheries in the 2016- 2017 due to major construction at the Apple Grove Hatchery. The Apple Grove Hatchery began a pond liner replacement project and therefore was required to temporarily take hatchery ponds out of production.





### **Blue Catfish**

More than 118,000 blue catfish fingerlings were stocked into the Kanawha and Ohio rivers and R.D. Bailey Reservoir during 2016-2017.

### **Channel Catfish**

More than 154,000 channel catfish fingerlings were reared at Palestine and Apple Grove hatcheries and were stocked into 14 waters and more than 9,300 advanced fingerlings were stocked into four waters. Approximately 1,800 pounds of catchable-size channel catfish were stocked into 11 waters in June 2017 to provide enhanced family recreational fishing opportunities at community and state park lakes.

### **Muskellunge**

Approximately 2,500 advanced fingerling muskies were stocked into North Bend Lake, East Lynn Reservoir, Woodrum Lake, Burnsville Reservoir, Upper Mud Lake, and Stonewall Jackson Reservoir.

### **Striped Bass**

More than 246,000 striped bass fingerlings were stocked into Bluestone Reservoir, and Mount Storm Lake. Approximately 3,200 of these striped bass were advanced fingerlings and were stocked into Mount Storm Lake to attempt to improve fish survival.

### **Hatchery Improvements**

Hatchery renovation activities began in 2017 with rearing pond liner replacement at Apple Grove Hatchery in Mason County and a water supply pump at Palestine Hatchery in Wirt County. Improvements for water supply and treatment are planned for additional hatcheries in 2018. These plans are being developed with a contractor to address priority operational issues to maintain fish production levels. These plans are the result of recommendations through a statewide hatchery study.

## **FISHERIES AND HABITAT SURVEYS**

---

### **Reservoirs**

Black bass fishery surveys were conducted on nine large reservoirs in the state. Surveys at Beech Fork, Burnsville, Cheat, East Lynn, Mount Storm, Stonecoal and Stonewall Jackson, Sutton and Tygart lakes monitored population characteristics of largemouth, smallmouth and spotted bass. Annual operational schedules by the U.S. Army Corps of Engineers and owners of other large reservoirs require coordination between the WRS and agencies responsible for these reservoir projects to minimize impacts to fish and wildlife and recreational opportunities if operational changes are implemented. These surveys provide the basis for determining management needs and evaluating management recommendations for these important recreational species.

### **Rivers, Streams and Small Impoundments**

River, stream and lake fisheries surveys were conducted to assess population characteristics for a range of species. Key projects included: (1) trout population and habitat assessments in wild and native trout range with a focus in the Chesapeake Bay watershed; (2) black bass surveys in the Kanawha, Ohio and South Branch of the Potomac rivers; (3) fish community surveys on the West Fork River following removal of dams; (4) sunfish population and habitat assessments on five small impoundments to better understand panfish management; and physical habitat assessments on four streams to evaluate future habitat enhancement projects.

## Fish Health Surveys

Fish health assessments are increasingly important components of fisheries management. Fish health surveys were conducted on the Kanawha and Ohio rivers and Charles Fork Lake for samples of walleye and muskellunge.

## Ohio River Coordination

Fish management staff coordinated and participated research and management activities on the Ohio River. These efforts include population assessments of blue and flathead catfish, black bass and sauger. Much of this work is guided by multiple states' needs and interests through the interstate Ohio River Fish Management Team. Fisheries biologists are also participating in the Mississippi Interstate Cooperative Resource Association's aquatic nuisance species planning efforts to minimize impacts upon West Virginia's aquatic resources.

A cooperative effort continued with the Kentucky Department of Fish and Wildlife Resources through monitoring the movement of Asian carp species in the Ohio River. This activity consists of tagging Asian Carp and tracking movements with telemetry equipment. Asian carp assessments also continued in partnership with the U.S. Fish and Wildlife Service in the collection of eDNA samples that assist in the monitoring of bighead and silver carp presence in the river. Analyses of eDNA in 2017 did not indicate the presence of genetic material for bighead or silver carp in the Pike Island or New Cumberland pools of the Ohio River.

## Habitat and Water Quality Enhancement

Fisheries management staff continued habitat enhancement projects in 2016. These projects included the long-running and successful fish attractor project utilizing recycled Christmas trees at Beech Fork, Cheat, East Lynn, Stonewall Jackson, Summersville, Sutton and Tygart lakes. Many of these activities were in cooperation with local fishing organizations and the West Virginia Department of Environmental Protection's Rehabilitation Environmental Action Plan and the U.S. Army Corps of Engineers.

Other physical habitat projects conducted in 2017 included riparian planting along Shavers Fork and its tributary, and Powerhouse Run near the Town of Spruce. The plantings will help re-establish streambank vegetation along Shavers Fork where instream habitat enhancements have been installed.

The limestone sand treatment program is one of the most successful management activities to improve fishing. More than 5,300 tons of crushed limestone sand were placed at 132 sites across more than 60 streams that provided direct water quality benefits to nearly 300 miles of predominantly native brook trout streams in the state. Private and public partnerships are critical to the success of the treatment program. Large landowners, Monongahela National Forest and the West Virginia Department of Environmental Protection contribute significantly to the program. More than 250 acres of small impoundments also were treated in 2016 to improve water quality conditions and fishing opportunities.

## Fishing Tournament Coordination

More than 700 fishing tournament days were permitted in 2016. These occurred on more than 30 waters in the state.





### Trophy Fish Citation Program

The Trophy Fish Citation program recognized anglers who caught 499 fish, representing 25 species that qualified as trophies in 2016. Of 11 waters (private lakes are counted as one water) yielding 10 or more fish citations, 77 percent were from streams and rivers, 12 percent from private lakes and ponds and 7 percent from large public lakes, and 4 percent from small public lakes. The trophy citation program began in 1976 and has recognized 59,998 anglers for their outstanding catches. The 2004 trophy citation program marked the first year of issuing length-only citations in addition to the certified weight citation. This allows anglers to practice catch-and-release and still receive a trophy citation. In 2016, 278 length-only citations were issued.

The First Fish Certificate program was established in 2008 to recognize young anglers' first catches. The online certificate is a colorful, tangible way to record a youngster's first fish. The certificate can be completed with the angler's name, species of fish, date and place of catch. The certificate can then be printed at home at no cost. The First Fish Certificate can be found online at:

**[www.wvdnr.gov/Fishing/First\\_Fish.shtm](http://www.wvdnr.gov/Fishing/First_Fish.shtm)**.

**TABLE 1 Year Trout Stocking**

Time Period & Hatchery	Rainbow Trout		Golden Trout		Brook Trout		Brown Trout		Total All Species	
	Weight	Number	Weight	Number	Weight	Number	Weight	Number	Weight	Number
Fall 2016										
Bowden	104,632	111,471	7,589	7,894	24,855	31,779	14,238	20,043	151,314	171,187
Edray	132,406	167,549	11,529	12,930	5,625	8,712	3,949	6,781	153,509	195,972
Petersburg	43,625	51,144	4,574	4,938	3,344	3,695	1,294	1,905	52,837	61,682
Reeds Creek	89,247	135,730	1,933	2,656	4,580	6,566	27,606	46,089	123,366	191,041
Ridge	28,545	39,997	2,838	3,789	26,724	32,229			58,107	76,015
Spring Run	93,303	118,984	7,753	8,705	5,384	7,942	24,004	27,234	130,444	162,865
Tate Lohr	74,223	111,607	3,494	5,201	3,849	6,262	14,719	26,035	96,285	149,105
<b>TOTAL</b>	<b>565,981</b>	<b>736,482</b>	<b>39,710</b>	<b>46,113</b>	<b>74,361</b>	<b>97,185</b>	<b>85,810</b>	<b>128,087</b>	<b>765,862</b>	<b>1,007,867</b>



**TABLE 2 Warmwater Stocking**

Species and Hatchery/Source	Number	Size	Location
Blue Catfish	118,866	fg	R.D. Bailey Reservoir; Kanawha and Ohio rivers
Channel Catfish	1,500	ad	Babcock SP Lake, Berwind Lake, Cacapon SP Lake, Cedar Creek SP Lake, Chief Logan SP Lake, Little Beaver SP Lake, Moncove SP Lake, Pendleton Lake, Longbranch Lake, Tomlinson Run SP Lake, Watoga SP Lake
Channel Catfish	9,318	af	Chief Cornstalk, Conaway Run Lake, Montwood Lake, North Bend SP Lake
Channel Catfish	154,476	fg	Anderson Lake, Barboursville Lake, Chief Cornstalk, Coonskin Lake, Hurricane Reservoir, Krodel Lake, Underwood Lake, Laurel Fork Lake, McClintic Ponds, Pettigrew Lake, Ridenour Park Lake, Stonewall Jackson Reservoir, Upper Mud Lake, Woodrum Lake
Channel Catfish	29,330	af	Anawalt, Berwind, Camp Caesar Pond, Chief Cornstalk Lake, Chief Logan SP Lake, Coonskin Pond, Hurricane Lake, Indian Rocks Lake, Krodel, Laurel Lake, Lick Creek Pond, Logan Co. Airport Pond, McClintic WMA Ponds, Millers Fork Pond, Mountwood Lake, Pennsboro Lake, Pettigrew Lake, Rockhouse Lake, Tomlinson Run SP Lake, Tracy Lake, Turkey Run Lake, Wirt County Farm Pond, Watoga SP Lake.
Muskellunge	2,025	af	North Bend SP Lake, East Lynn Reservoir, Woodrum Lake, Burnsville Reservoir, Upper Mud Lake, and Stonewall Jackson Reservoir
Striped Bass	3,278	af	Mount Storm Lake
Striped Bass	246,484	fg	Bluestone Reservoir, Mount Storm Lake
			ad = adult af = advanced fingerling fg = fingerling fy = fry



## WILDLIFE DIVERSITY PROGRAM

---

### Ornithology

#### American Kestrel

American kestrels, though common range-wide, occur locally in West Virginia and appear to be limited by a lack of available nest cavities. Much highly suitable habitat is likely unoccupied during the breeding season due to this constraint. In partnership with West Virginia University and the Avian Conservation Center of Appalachia, WVDNR WRS staff constructed 100 American kestrel nest boxes for deployment in suitable habitat in the north/central region of the state.

#### American Woodcock

American woodcock is an upland game species associated with wet meadows and early successional habitats. In West Virginia, and the eastern region, this species has been declining at a steady rate of 1.1 percent per year since 1968. As part of the U.S. Fish and Wildlife Service (USFWS) American woodcock singing ground survey, WVDNR staff and partners ran 23 (vs. 19 in 2016) routes statewide and detected 29 (vs. 19 in 2016) birds, for an average of 1.26 males/route (vs. 1.00 in 2016). This is the second year of improvement from 2015, which hierarchical models suggest was the lowest since the survey began (American woodcock population status, 2015, USFWS).

#### Bald Eagle

Staff and volunteers monitored 64 (vs. 62 in 2016) bald eagle nest sites in 2017 in Berkeley, Braxton, Brooke, Cabell, Fayette, Gilmer, Grant, Greenbrier, Hampshire, Hancock, Hardy, Jackson, Jefferson, Mineral, Monongalia, Monroe, Morgan, Pendleton, Pocahontas, Raleigh, Summers, Taylor, Tyler, Webster, and Wood counties. Due to continued increases in the number of nests, WVDNR staff and volunteers are now monitoring nests once per breeding season to assess activity and productivity. Five new nests were documented in 2017 (vs. 8 in 2016) in Braxton, Hampshire, Hardy, Morgan, and Webster counties. Of the 62 nests monitored, 51 were active (vs. 50 in 2016) and an additional seven sites were uncertain due to various causes. These include inactive nests but adults present in the area, or recently active nests that were not monitored due to various constraints. Of the 51 active nests, 35 fledged at least one young (vs. 33 in 2016), 19 nests produced two young, one nest produced three young, and 14 were monitored during incubation and/or brooding and we were not able to assess productivity (vs. 14 in 2016).

There were numerous observations during the reporting period of non-breeding birds statewide. The 12th southern West Virginia winter eagle survey was held Jan. 7, 2017, and 50 bald eagles (vs. 33 in 2016) of various ages were located. The Ohio River Islands National Wildlife Refuge (ORINWR) winter bald eagle survey Jan. 7, 2017, detected 14 eagles (vs. 13 in 2016); eight were adults and six immatures.

Bald eagle populations continue to recover, and recent breeding season observations suggest a larger breeding population than currently understood. Abundance is also likely greater than documented in Tucker, Barbour and Taylor counties and in the Elk River watershed. It is unknown whether there is a breeding population in southwestern counties, and survey of the Guyandotte, Tug Fork and impoundments/lakes in February and March is recommended if/when resources allow. Poor water quality might be a limiting factor in these areas.





### **Bank Swallow**

Following the conclusion of the second West Virginia Breeding Bird Atlas, WVDNR staff and volunteers have begun documenting and monitoring bank swallow colonies to better assess preferred microhabitat as well as active size and duration of colonies. Bank swallows were detected on multiple occasions during breeding season at Gallipolis Ferry, Mason County. The exact location of the colony is unknown, but it is sizeable. A single active colony was confirmed in Mason County in 2016 at a sand and gravel quarry, but was not confirmed in 2017. This colony has been active for 20 years, and contained 40 active nests in 2016.

### **Barn Owl**

Barn owl is a poorly understood species found in grassland and town habitats in the Ohio floodplain, Greenbrier Valley, South Branch Valley, Canaan Valley and eastern and northern panhandles. Distribution and abundance is likely greater than the evidence below suggests. During the reporting period, barn owls and young were observed at a known site in Hardy County and in a WVDNR nest box in Wood County. A long-time active site in Pendleton County was also reported. Staff also produced a press release that generated public interest, and new barn owl nest boxes will be placed at sites in the Greenbrier and South Branch valleys in fall 2017.

### **Breeding Bird Survey**

The USGS-sponsored Breeding Bird Survey program (BBS), initiated in 1966, is a primary tool in the United States for assessing long-term changes in distribution and abundance for numerous bird species. The survey consists of randomly distributed 25-mile driving routes. Each route contains 50 stops, at which a 3-minute timed survey is conducted. West Virginia currently has 55 routes. The BBS has traditionally been coordinated by volunteers in West Virginia. Considering a declining and aging birding community statewide, WVDNR staff assumed these duties in 2015 to increase volunteer participation and the total number of routes surveyed annually. In 2015, 45 routes were surveyed. This number increased to 46 in 2016. In 2017, the number of routes surveyed increased again to 52. WVDNR staff participated directly in surveying 20 routes in 2017 (vs. 12 in 2016).

### **Cerulean Warbler**

Cerulean warbler is a bird of extensive mature, structurally complex forests. In West Virginia, this species is widespread but has declined by 49 percent since 1986. Despite the decline, it is estimated that West Virginia houses approximately 35 percent of the global breeding population of the species (Partners in Flight population estimate database). In 2015, the Appalachian Mountains Joint Venture and regional partners (including WVDNR) applied for and received \$8 million from the newly-created USDA Regional Conservation Partnership Program. The 5-year grant will follow the Working Lands for Wildlife model (currently being used to enhance golden-winged warbler habitat) and provide training and funding to enhance cerulean warbler habitat on private lands in five states.

A full-time state coordinator position has been created to implement the project in West Virginia for the 5-year grant term (now in its second year). Additionally, a Natural Resources Conservation Service (NRCS)/WVDNR partner biologist was hired to assist the state coordinator in 2016. The NRCS/WVDNR partner biologist made 66 site (property) visits in 24 counties during the 2016-2017 fiscal year. Currently, this project has 21 properties under contract in 16 counties. Two landowner contracts have been completed. Program constraints for contracts obligated July 1, 2016 – June 30, 2017: the Interagency Coordination Tool (ICT) reduced contract acres by about 26 percent. Indiana Bat, Northern Long-eared Bat, and Running Buffalo Clover were the most frequent barriers to contracting.



### **Chimney Swift**

The Chimney Swift is a declining aerial insectivore that is often dependent on human structures for breeding and roosting in the eastern United States. The species has declined in West Virginia by 44 percent since 1986 due to a variety of factors. Staff is working with Shepherd University staff to mitigate the planned demolition of one of the largest swift roosts in the state. Mitigation will involve construction of a new tower nearby. As part of these efforts, another large chimney that served as a significant roost hosting 1,000+ birds during peak migration until 2015 was uncapped to allow use once again. Potomac Valley Audubon Society is currently actively fundraising for construction of the new tower.

### **Eastern Whip-poor-will**

The eastern whip-poor-will is an aerial insectivore found in woodlands and woodland edges statewide except for the northern panhandle and the Allegheny highlands. The species is in decline over much of its range. Due to its nocturnal nature, eastern whip-poor-will is generally not adequately surveyed by Breeding Bird Survey or Breeding Bird Atlas projects. In 2013, WVDNR staff attempted to increase coverage for this species by distributing a press release to outlets statewide. It was met with huge success, and reporting from state residents has continued since then. Hundreds of reports were received by staff in 2017 despite a lack of agency solicitation. In coming years, WVDNR will work with partners to investigate potential expansion of whip-poor-will monitoring in West Virginia to better assess long-term trends.

### **Golden Eagle**

Recent research has confirmed that a significant percentage of the eastern golden eagle population overwinters in the highlands of West Virginia and Virginia. Wintering golden eagles were documented across the state. The mountain counties have the highest densities and occur with the highest frequency. During migration, this species can occur just about anywhere. During the winter of 2016-2017, staff and partners monitored seven previously established camera trap sites as part of a larger regional study of eastern golden eagle demographics and migration. Eastern golden eagles were documented at each site, including the first record of an eastern golden eagle in Wood County, West Virginia. One golden eagle was detected during the southern West Virginia winter eagle survey (vs. four in 2016), and none were detected during the ORINWR winter survey.

### **Golden-winged Warbler**

WVDNR staff and partners worked to implement the USDA-sponsored "Working Lands for Wildlife" program. This program supports small landowners for creation of early-successional habitat suitable for the fast-declining species. In early 2017, the WVDNR and NRCS hired a partner biologist to continue implementing this program. Thus far, efforts have concentrated on outreach to potential landowners and monitoring existing contracts.

### **Important Bird Areas (IBA)**

Audubon's IBAs are intended to elevate public awareness of important landscapes and sites for bird conservation and recreation. IBAs in West Virginia require additional refinement, and staff has worked on this off and on since 2005. During the reporting period, staff worked within the agency to refine habitat models with a focus on wetland and riparian areas. A draft wetland/waterbird occupancy model was created and additional models for other habitats will be produced as part of Breeding Bird Atlas activities that will then inform future IBA planning.



### **Loggerhead Shrike**

Loggerhead shrike is West Virginia's most-threatened breeding grassland/shrubland bird species. This species is generally only found in pastures with a thorny shrub component, short grass and an abundance of natural and artificial hunting perches. The estimated current breeding population in West Virginia is no more than 20-30 pairs. Loggerhead shrike is declining across its range, and the drivers of this negative trend are poorly understood.

Staff monitored 20+ historical/recently-active loggerhead shrike sites during the reporting period in Berkeley, Grant, Greenbrier, Hardy, Jefferson, Monroe, Pendleton and Pocahontas counties. During breeding season, shrikes were observed at seven of these sites (vs. 9 in 2016), all in the Greenbrier Valley. Breeding pairs were located at six of these sites. Two sites, in Greenbrier and Monroe counties, were newly occupied after many years of absence. During the non-breeding season, shrikes were only reported in the Greenbrier Valley. Staff continued to work with partners from nearby states and Ontario, Canada in the coordination of a loggerhead shrike working group. Staff worked with partners to refine drafts of a conservation action plan and guide work with the species between partners. In winter 2017, staff co-led a formal working group meeting as part of the SE/NE Partners in Flight conference in Nashville, Tennessee.

Staff from WVDNR and Virginia Department of Game and Inland Fisheries (VDGIF) also partnered during the reporting period in West Virginia and Virginia on trapping and banding shrikes in both states. As part of this effort, six shrikes were located and trapped/banded in West Virginia during the reporting period. All birds were banded with color bands to enable field identification of individuals. In addition, feather samples were obtained that will answer questions pertaining to subspecies status and fitness of West Virginia birds. This brings the total number of shrikes banded in West Virginia since spring 2014 to 32. Staff will continue to trap unbanded birds in 2017-2018 as part of an international partnership across eastern states and Canada. All banding will conform to the same protocol and will be directed by a regional coordinator.

Finally, staff coordinated with West Virginia University, VDGIF, and the Loggerhead Shrike Working Group to initiate a Master of Science research project on shrike detectability, occupancy, and habitat in Virginia and West Virginia. WVDNR supported this project by hiring a field technician who conducted hundreds of point counts in Greenbrier, Monroe and Pocahontas counties. These surveys detected two breeding pairs at previously unoccupied historical sites.

### **Long-eared Owl**

This owl likely breeds at widely scattered locations in West Virginia, but detections are rare. A credible breeding season report was received of an individual bird in Canaan Valley on May 29, 2017.

### **Northern Goshawk**

Staff worked with Monongahela National Forest staff preparing survey methodology and protocol for northern goshawk as part of implementation of a management plan for the Mower Tract in Randolph County. In future years, staff will assist USFS staff in completing transect surveys and monitoring historical breeding sites within the project area. Two unverified eBird breeding season reports were obtained during the reporting period in the Fernow Experimental Forest and Kumbrabow State Forest in Randolph County. Four nonbreeding Northern Goshawks were detected in Greenbrier, Jefferson, and Randolph counties.



### **Northern Harrier**

Northern harrier is a raptor most often associated with open areas and wetlands. Successful breeding was first confirmed in the state at Canaan Valley National Wildlife Refuge in 2012. Monitoring since 2013 has confirmed that birds remain present in the valley during breeding season, though no additional nest sites have been located. It is suspected that at least two pairs breed in the valley in any given year. During the 2017 breeding season there were multiple observations of Northern Harriers in Canaan Valley.

### **Northern Saw-whet Owl**

The true distribution and abundance of our smallest owl species has long been an open question. Northern saw-whet owl breeding habitat usually, but not always, includes a conifer component. During the West Virginia Breeding Bird Atlas II survey period, this species was detected at 13 locations statewide, including nest boxes monitored by WVDNR staff and volunteers on Briery Knob and at Blackwater Falls State Park. However, playback surveys were only conducted in a small subset of blocks containing suitable habitat.

In 2015 and 2016, WVDNR initiated a 2-year research effort to better-delineate distribution and habitat for the species using playback and modelling. Results overview:

- 308 points were surveyed. At each point, a 15-minute passive listening period was followed by 15 minutes of recorded calls.
- Northern saw-whet owl was detected at 55 of these points, or 17.9 percent.
- Birds were detected as far north as Coopers Rock State Forest and south to Pipestem Resort State Park.
- Most birds were detected at high elevation in mixed spruce/northern hardwood habitats.
- Birds were captured and assessed for age, sex, fitness, and samples were collected for stable isotope analysis.

### **Olive-sided Flycatcher**

Olive-sided flycatcher is a long-distance migrant that breeds in boreal and conifer forests and wetlands and winters in Central and South America. It reaches its extreme southern breeding limit at highest elevations in red spruce forest in West Virginia. This species is in steep decline, and causes are poorly understood.

During the first West Virginia Breeding Bird Atlas (completed in 1989), the species was detected at three sites in Pocahontas and Randolph counties. After an extended period of years with no breeding season detections, breeding olive-sided flycatchers were once again detected during the second Atlas in 2013, at Cranberry Glades in Pocahontas County. WVDNR staff and volunteers have been monitoring this site since 2013. In 2014, two breeding pairs with young were located. In 2015, two breeding pairs were located. In 2016, one pair was located. In 2017, one pair was located. In coming years, additional sites should be monitored, including blister run swamp and other bog habitats with scattered tall conifers and snags.

### **Osprey**

Ospreys have been nesting at large impoundments and along the Ohio River in West Virginia in recent years. In 2017, staff documented five new nests along the Kanawha River from Kanawha Falls in Fayette County downstream to Midway in Putnam County. Four nests were situated on cell towers and one on a trestle bridge. There were four active nests at Stonewall Jackson Lake. New nests are being constructed on artificial structures such as cell and radio towers. Staff is working with tower operators and USFWS to explore the potential of dedicated nest platforms on selected towers. In the future, this species will likely expand its presence to include any suitable flatwater habitat with available structures or snags for nesting.



### **Peregrine Falcon**

Our largest falcon, the peregrine breeds on scarps, in quarries, and in recent years mostly on man-made structures. These structures include dams, bridges, industrial sites, and possibly buildings in urban areas. The species is experiencing a long, slow recovery following DDT dichlorodiphenyltrichloroethane) impacts during the 20th century. During the 2017 breeding season, WVDNR staff and volunteers detected peregrines at sites in Fayette, Grant, Jefferson, Monongalia, Ohio, Pleasants, Tucker, and Wetzel counties. A new nest site was discovered in Pleasants County on the structure of a coal power plant. Another active nest was located in Jefferson County at a quarry. Outside of breeding season, falcons were observed in the Ohio, Kanawha, Monongalia, New, and Potomac watersheds.

### **Rails and Bitterns**

During the previous reporting period, breeding season detections were received only from Greenbottom WMA in Cabell County and Canaan Valley, Tucker County. Scattered reports of migrating rails were received.

### **Sandhill Crane**

Sandhill crane is a species of shallow wetlands and flooded grasslands/pasture. It is rapidly increasing in abundance, and is being reported with greater frequency in West Virginia. While the species does not currently breed in West Virginia, this is likely to change in coming decades. A pair was observed in Rockingham County, Virginia (bordering Pendleton County, West Virginia), during the 2016 breeding season, and breeding is occurring in Garrett County, Maryland. Sandhill crane will likely be added to the State Wildlife Action Plan during the current period or with the next revision. Cranes were reported in winter in Greenbrier, Kanawha, Monongalia, Preston, and Raleigh counties. There were no breeding season detections.

### **Upland Sandpiper**

Staff monitored a site (active in 2012) near Cabins, West Virginia, in Grant County during the 2017 breeding season. No birds were detected. As with loggerhead shrike, roadside bias likely limits detection of the species.

### **WV Breeding Bird Atlas 2**

The final field season of the 6-year atlas project was successfully completed in 2014. Staff coordinated agency activities, volunteer efforts and contracts and grants to assist the project and completed numerous days of field work to gather atlas data for breeding confirmations and abundance counts. Priorities have now shifted to outlining and writing chapters and species accounts for the forthcoming book.

Final atlas summary:

- Project duration of six years.
- Abundance sampling completed on more than 400 priority blocks.
- Total bird observations for the entire atlas period now stand at 106,816.
- More than 20,000 hours of volunteer effort logged by 378 participants.
- 179 species reported, 164 species confirmed breeding.
- 2,075 of 2,766 blocks received data. All priority blocks received data.

### **Winter Bird Count**

The survey was continued, and fall 2017 marks the beginning of the 29th year of the count. More than 100 tally forms were received from participants statewide.

## Butterflies

### WV Butterfly Atlas

Work is being finished on the West Virginia Butterfly Atlas with field surveys ending in 2016. 2017 will be used as a mop-up year to attempt to document species that had not been seen during the atlas, and to survey habitats that were underrepresented. Wildlife Diversity personnel trained one staff and six cooperators, putting the total number of participants at 101 volunteers and 27 cooperators and staff. Participants submitted 1,427 vouchers or observations consisting of 89 species of butterflies and 14 species of targeted moths in 2016. These included 82 county records and 108 updates of historic records, with the total for the atlas of 467 county records and 1151 updated records.

All records from the 2016 field season were entered in a database. Locations and coordinates were confirmed or generated, and identifications were made and confirmed by experts, if needed. A spring newsletter was written and distributed to participants and other interested parties that included sampling priorities for the 2017 mop-up field season. All participants received copies of their data, and those participants who agreed to participate in 2017 received materials if needed.

The 2017 field season began with the auspicious discovery of a species that had not been documented in the state since 1991. A volunteer photographed an Olympia Marble (*Euchloe Olympia*) in Putnam County. This species was formerly locally common at shale barrens and other xeric sites in the Eastern Panhandle, but is now apparently extirpated there. An 1881 record is listed for Kanawha County. Individuals documented in the current record are likely using the dry oak-pine habitat that occurs in that region.

Wildlife Diversity staff coordinated with the US Forest Service in monitoring the only known Appalachian Grizzled Skipper (*Pyrgus Wyandot*) colony in Greenbrier County, West Virginia. With an increased number of participants, observers could more thoroughly survey the site and counted 47 flying adults (up from 33 in 2015, the survey was too late in 2016 for adults). Since 2014, management has been performed by WVDNR Game Management personnel to cut back encroaching woody vegetation to allow better growth of the skipper's larval host plant (*Potentilla canadaria*) and nectar plants. This management has improved habitat for the skipper and may be a contributing factor in the increased numbers.

### WV Wetland Butterfly Grant

Along with three other states (Maryland, New Jersey, and Pennsylvania) and the District of Columbia, West Virginia is participating in a federal Regional Conservation Needs (RCN) grant focusing on the occurrence and habitat of wetland obligate butterflies. Wildlife Diversity staff generated ArcMap shape files for incorporation in the study's predictive model of occurrence. Staff coordinated with the lead agency (Maryland DNR) on financial and project reporting, data sharing, and participant resources. Staff and volunteers surveyed 15 sites for target butterflies and evaluated habitat. In 2017, staff trained six cooperators with the US Forest Service to participate.

### Monarch Butterfly Conservation

In January 2017, Administration and Wildlife Diversity staff attended the Mid-America Regional Monarch Conservation Planning workshop in Burnet, Texas. After three days of listening, evaluating, and planning, participants developed a framework for a multi-state conservation plan for the eastern population of Monarch butterfly (*Danaus plexippus*) to slow and stop the decline of this species and to hopefully avoid federal listing. Approximately half of West Virginia is within the Monarch's core breeding area.

In May 2017, the WVDNR partnered with the Natural Resource Conservation Service to hire a shared biologist position specializing in pollinator conservation and habitat enhancement. This person will aid both agencies to fulfill program objectives to implement pollinator and Monarch conservation in West Virginia.





## Mussel Program

In 2003, the Mussel Program began establishing long-term monitoring sites around the state. These are surveyed approximately every five years with additional sites added each year. Some of the sites are also designated as restoration sites as described below and have required more frequent monitoring. Eleven long-term monitoring sites were re-assessed during FY2016/2017. The reassessed sites included the Kanawha River at Kanawha Falls, Elk River at Queen Shoals, Ohio River at Neal Island and RM 284, Meathouse Fork at New Milton, Middle Island Creek at Falls Mills, Cacapon River at Great Cacapon, Little Kanawha River at Burning Springs and Annamoriah, North Fork Hughes River and Monongahela River below Hildebrand and Opekiska dams. No new sites were established however several of the surveys noted below were conducted to locate sites for future monitoring (Buffalo Creek, Wheeling Creek, and Fishing Creek). Various monitoring methods are used including Mark/Recapture (M/R) in which all mussels observed within a designated area are collected. Mussels are identified, sexed if sexually dimorphic, measured, uniquely tagged and then returned to the area from which they were collected. Upon subsequent visits, previously tagged mussels are measured and identified as live, fresh dead or weathered dead and any un-tagged live mussels are tagged. The three random starts systematic sampling (3RS) method is also used at some sites. This method consists of excavating substrate samples within 0.25m<sup>2</sup> quadrat placed systematically throughout the area based on three random starting points. Mussels are then sorted from the substrate material and identified, measured, and sexed if possible.

In 2006, the WVDNR began restoration activities for federally listed mussel species into rivers of the state. The 2006 effort was the reintroduction of *Villosa fabalis* (Rayed Bean) into the Elk River although at the time it was only a candidate for listing. It was listed as endangered in 2012. In 2013, a large multi-state restoration effort began for the Northern Riffleshell and Clubshell due to a large salvage project on the Allegheny River in Pennsylvania resulting from a bridge construction project. In order to receive federally listed mussels for restoration, pilot studies were required which consisted of stocking 50 to 100 individuals of each species at a site and monitoring survival over a year. During fiscal year 2015/2016, several pilot studies were monitored and upon observing positive results, additional stocking of mussels was initiated. All stocked mussels were tagged with glue-on shellfish tags; pieces, glitter and a select number were pit-tagged. Populations assessed thus far appear to be doing well except for those individuals placed into poor habitat by the bridge contractor. At this time, endangered species restoration activities are only conducted within streams that currently contain federally listed species so as to not create any additional regulatory burden. Additional restoration activities have included stocking of common species into Dunkard Creek initiated in 2012, the Monongahela River initiated in 2006, and the Ohio River initiated in 2006.

The Ohio River Restoration Project for mussels continued. This project is funded from a settlement for the 1999 mussel and fish kill allegedly caused by the Eramet/Elkem chemical spill near Parkersburg. In cooperation with the USFWS, time was spent collecting and returning mussel broodstock for propagation. These mussels were distributed to cooperators including White Sulphur Springs National Fish Hatchery (WSSNFH), Kentucky Department of Fish and Game, and Genoa National Fish Hatchery (GNFH). Staff also assisted with broodstock collecting for the Cooperative Research Initiative project and other propagation activities being conducted by WSSNFH. Three stocking events were conducted.

Dunkard Creek mussels were completely wiped out in 2009. Mussels require a host, in most cases a fish, in order to complete their lifecycle. One mussel, Salamander Mussel, uses the mudpuppy as a host. Mudpuppies were significantly impacted in 2009 as well. In order to restore the Salamander Mussel, the status of mudpuppies must be determined. Staff assisted Pennsylvania Fish and Boat Commission staff with a monitoring event in order to establish like methodologies. Supplies were procured, and methods developed to conduct surveys during the winter of 2016/2017 however stream conditions never permitted. Plans are to conduct this event in 2017/2018.



In June 2015, a long-term mark/recapture monitoring site was established on the Cacapon River at Great Cacapon. The mark/recapture site was established at this site to compliment other survey methodologies being used by a National Conservation Training Center (NCTC) mussel class. This site is being monitored by the class with data provided to the WVDNR. In August 2017, assistance was provided for the class field exercise.

Two of three dams were removed from the West Fork River upstream of Clarksburg in May and June 2016. Staff assisted with mussel salvage efforts as the water levels were lowered. In October 2016, the third dam was removed and mussel salvage was completed. Plans were developed for establishing a long-term monitoring site within the restored river. Stream conditions have not yet allowed for this effort. The Mussel Program continues to cooperate with the West Virginia Division of Highways in monitoring of federally endangered species relocated from their bridge projects. The FWS requires these mussels to be monitored for three years. Six Snuffbox previously relocated from the Shiloh Bridge on Middle Island Creek to Falls Mills were assessed. One Snuffbox salvaged from the Camp Creek Bridge on the Elk River was relocated to the long-term monitoring site at Queen Shoals. Six mussel surveys (Patterson Creek, New Creek, South Fork South Branch, South Branch and Middle Wheeling Creek) were conducted for private landowners/Trout Unlimited/NRCS to clear instream projects for application to the Public Lands Corporation. An additional survey was conducted for the Fort Ashby Water Plant on Patterson Creek. Additional mussel surveys were conducted on the following streams: Little Kanawha River, Middle Island Creek, Fishing Creek, Bonds Creek, Goose Creek, Wheeling Creek, Spring Creek, Reedy Creek, Steer Creek, Greenbrier River, and Deer Creek.

In 2016, we began a cooperative project with U.S. Environmental Protection Agency in assessing the feasibility of using environmental DNA (eDNA) collected in sediment and water samples to determine the presence of mussels, in particular, federally endangered species. They agreed to include analysis for some of our other species of greatest conservation need. Numerous water and sediment samples have been collected as well as tissue samples of known species to aid in development of DNA markers.

During the last monitoring event (2014) on the Elk River at Sutton, no mussel reproduction had been observed in at least the previous 12 years. In May 2017, an in-situ mussel bioassay was initiated. Propagated Black Sandshell mussels obtained from WSSNFH were placed into concrete silos at six locations within the uppermost mile of the Elk River below the dam. These silos were placed targeting point source discharges. Survival and growth will be assessed in late 2017.

## NATURAL HERITAGE PROGRAM

---

### Ecology

WVDNR Ecologists continued work to characterize, classify, map, and protect the natural terrestrial habitats in West Virginia. Habitats are classified based on the vegetation (also called plant communities) that characterizes a site. We also made significant advances in the knowledge of West Virginia's individual plant species.

During the fiscal year, WVDNR ecologists sampled 33 vegetation plots, concentrating on poorly sampled areas and poorly sampled habitats throughout the state. Our database now includes more than 4,600 vegetation plots well distributed across the state's geography and ecosystems. They form a strong foundation for completing a vegetation classification and serve as a baseline of knowledge on the condition and diversity of natural terrestrial habitats in the state.





Four new web pages were added in the *Wild Vegetation of West Virginia* series. These pages serve as a guide to the state's natural habitats, each page covering a different group of habitats. The intended audience includes ecologists, wildlife biologists, land managers, teachers, students, and the interested public. Information is presented on ecology, floristic composition, animal use, distribution, where-to-see, conservation status and issues, classification, and references. Each page includes a photo gallery and links to other web pages. Web pages for four natural groups (High Floodplain Forests and Woodlands, River scour Prairies, Upland hemlock – Hardwood Forests, and Oak / Heath Forests) were added in 2017, available here: <http://wvdnr.gov/Wildlife/Factsheets/>.

As the development of a West Virginia vegetation classification reaches maturity, our field work has shifted towards documenting occurrences of rare and exemplary occurrences of classified vegetation Associations in the state. Twelve new occurrences were added to the Biotics database maintained by the Natural Heritage Program.

We surveyed private lands along the Shavers Fork River (Randolph County) and near the town of Oak Hill (Fayette County) to support applications for the West Virginia Outdoor Heritage Conservation Fund. Biodiversity Ranks ("B-Ranks") were assigned to each property based on the quality, extent, and imperilment of natural habitats and rare species populations found.

Ecology staff also made significant contributions to the knowledge of the distribution and ecology plant species in West Virginia. Numerous rare plant species were documented during vegetation surveys. Two-hundred-eight new rare plant occurrences were added to the Biotics database maintained by the Natural Heritage Program. Three-hundred-eighty-two plant specimens collected by WVDNR ecologists over the years were processed, labeled, and donated to the herbarium of West Virginia University for permanent curation.

We documented the first verified occurrence of *Viola walteri* (prostrate blue violet) for West Virginia from limestone habitats in Germany Valley and the Smokehole. This southern species was previously reported from the state, but these records were subsequently identified as other species of *Viola*, mostly *Viola appalachensis* (Appalachian violet). Results from a genetic study (field collection completed by WVDNR ecologists last fiscal year) of the rare shrub *Paxistima canbyi* (Canby's mountain lover) were received from our U.S. Forest Service partners. West Virginia populations of this species were found to be largely clonal (reproducing by vegetative means), with low genetic diversity, but some populations harbor higher levels of diversity, warranting special protection. The species is currently declining throughout its range due to excessive herbivory by white-tailed deer and infestation by a non-native insect pest.

Aquatic plant specimens collected from West Virginia rivers were taken to a workshop on the *Potamogetonaceae* (pondweed family) offered by the Pennsylvania Botany Symposium. During the workshop our specimens were identified by a world taxonomic expert of the group, resulting in verification of several populations of *Potamogeton tennesseensis*, a rare species currently under consideration for listing by the U.S. Fish and Wildlife Service. We surveyed numerous high elevation swamps and identified the non-native *Ranunculus repens* (creeping buttercup) as a serious threat to these rare habitats. We also documented two wetland sites on Cheat Mountain with established populations of *Mimulus guttatus* (yellow monkeyflower), a species from the Rocky Mountains not previously known in West Virginia. As usual, we responded to numerous requests from within our agency, from other government agencies, academic researchers, and from the public to identify plants, often from vegetative scraps or digital photographs.

#### Partnership activities:

- assisted the West Virginia Department of Environmental Protection to develop and field test a Wetland Rapid Assessment Method for functions and values of the state's wetlands for permitting and mitigation;
- worked with professors and students at Concord University to study stand dynamics of an old age, declining pin oak swamp in the Meadow River Wildlife Management Area;
- participated at the Southeastern Partners in Plant Conservation Conference in Atlanta, Georgia;
- participated in meetings and conference calls organized by the U. S. Environmental Protection Agency to discuss the establishment of a Mid-Atlantic regional monitoring network for detecting changes in wetlands in response to climate change;
- reviewed and commented on a West Virginia Division of Highways proposal to replace Cheat Bridge, to insure protection of a globally rare ice-scour prairie community and several rare plant species;
- participated in meetings of the Central Appalachian Spruce Restoration Initiative and the Potomac Highlands Cooperative Weed and Pest Management Area
- assisted a forestry consultant to identify and manage rare habitats on corporate timberlands in southern West Virginia for compliance with Forest Stewardship Council certification;
- reviewed and commented on proposals submitted by the U.S. Forest Service; and
- assisted the National Park Service to establish permanent monitoring transects in river-scour prairie habitats along the Gauley River.



Ecology staff participated in several outreach and educational activities including leading field trips for the Wildflower Pilgrimage and the Boy Scouts; teaching Master Naturalist classes on wildflowers and weeds; participating in Forest Festival outreach activities; providing technical reviews of articles for Wonderful West Virginia magazine; and consulting with graduate student and faculty researchers about research projects and study sites.

## Botany

### Federally Listed Plants

Monitoring for four endangered and two threatened plant species occurred throughout the 2016- 2017 fiscal year. Field work was supported by the U.S. Fish & Wildlife Service (USFWS) under the Endangered Species Act, Section 6.

Wildlife Diversity staff consulted with federal and state agencies in West Virginia concerning the location, identification, and conservation action needed to comply with the federal Endangered Species Act in their projects and on their managed landscapes. Staff investigated reports of new occurrences of listed plant species within proposed pipeline rights of way, power line rights of way, highways, and other infrastructure projects across the state. Individuals volunteered to assist Wildlife Diversity staff in monitoring listed plant populations and were provided on-the-job training regarding those specific species which helped their eligibility to be added to the list of approved surveyors of federally listed plant species in West Virginia.

### Running Buffalo Clover (RBC) - (*Trifolium stoloniferum*), endangered

Running Buffalo Clover populations were monitored at six sites in 2017. Wildlife Diversity staff accompanied a representative of Brookfield Renewable Power to conduct a monitoring assessment of the Cotton Hill site of RBC on May 16, 2017. Thirty-nine (39) rooted crowns were seen, compared to 62 rooted crowns seen in 2016, 50 rooted crowns in 2015, 11 rooted crowns seen in 2014, and only one rooted crown seen in 2013. Annual monitoring data indicates that management practices that



involve “day-lighting” the site by thinning woody vegetation, exposing the RBC to more sunlight, and disturbing the ground with a fire rake continues to move the population toward the goal of restoring it to the 100 rooted crowns once seen in the late 1980s. We will continue to monitor the canopy closure and resultant sunlight penetration.

A team of 18 partners with the U.S. Forest Service, U.S. Fish and Wildlife Service, volunteers, and Wildlife Diversity staff conducted monitoring surveys at the Crouch Knob occurrence of RBC for one day. Although it was not possible to complete a total monitoring survey of this largest of all populations of RBC, we were able to rediscover nearly all of the known sub-populations at the site, and estimated a population of approximately 124,600 to 229,000 rooted crowns, with between 3,900 and 6,910 flowering stems. This estimate, and the condition of the RBC plants observed, indicates that this population is doing well. Some locations may require canopy manipulation to allow more sunlight to reach the forest floor. Wildlife Diversity staff is working Forest Service staff on developing a management plan for the Crouch Knob site.

Wildlife Diversity staff will revisit the RBC population at Kelley Mountain Quarry in the fall of 2017. Only 11 rooted crowns, none with flowers, were seen in three patches in 2016. At least three rooted crowns that had been marked with pin flags in 2015 were not seen in 2016. The RBC plants were thin, spindly, and only a couple of weak stolons were present. This site is the only site where transplanting of RBC plants has been attempted. It was decided that no further daylighting of the forest would occur in 2016, but that in the autumn, additional soil disturbance would be accomplished using fire rakes. That disturbance was not completed in 2016, and should be conducted in 2017.

Wildlife Diversity staff revisited the Coberley Sods occurrence of RBC in 2017. Preliminary examination of the data suggests that the population is thriving and expanding in distribution. Approximately one percent of the plants were found flowering (27,925 rooted crowns, 279 flowering stems). The low number of flowering stems may be due to the date of completion of our survey (late August), or perhaps due to the state of canopy cover (70-90 percent canopy closure). Monongahela National Forest ecology staff recently became aware that a section of the population was recently damaged by unauthorized road grading. With guidance from Wildlife Diversity staff, protocols are being established that should define for USFS district what actions may occur on roads containing endangered plant species.

Wildlife Diversity staff revisited the Rock Camp Run occurrence of RBC on July 19, 2017. This RBC population that historically occurred in a wildlife opening still has no rooted crowns in 2017, despite the fact that a WVDNR wildlife manager has resumed mowing the area the past four years, to reduce shading by the tall herbaceous plant, wing-stem. Other patches of RBC in the area appear to be doing well, with an increase in the number of rooted crowns at one sunny spot. Overall the number of flowering stems is low at this occurrence, suggesting the need for thinning of the forest canopy to permit additional light penetration.

Wildlife Diversity staff revisited the McGee Run/Backfork Tributary occurrence of RBC in early September of 2017 to monitor the status of sub-populations of RBC and the potential impact of on-going management actions throughout the area. Some sub-populations of RBC were not re-located, some had been impacted by management actions, and some sub-populations had lower numbers of rooted crowns and no flowering stems. Wildlife Diversity and Game Management staff are collaborating with Monongahela National Forest on management actions to that will create early successional habitat, and thus conditions favorable to RBC. Actions involve 1) carefully creating moderate to major road disturbance in locations historically occupied by RBC and, 2) increasing sunlight penetration through forest canopy thinning.

Wildlife Diversity staff are working with USDA Forest Service personnel on the Monongahela National Forest and the Fernow Experimental Forest to develop management plans for RBC at four population occurrences on the Monongahela National Forest: Crouch Knob, Rock Camp Run, Coberley/Bowden, and the Fernow Experimental Forest. To accomplish recovery tasks listed in the, RBC recovery plan, management plans must be developed for a specified number of A, B, C, and D-sized RBC occurrences on public lands in all three regions across its distribution in North America

#### **Shale Barren Rockcress (SBRC) - (*Arabis serotina*), endangered**

Wildlife Diversity staff consulted with the U.S. Navy and the National Security Administration regarding the management of the SBRC occurrence on Little Fork shale barren at Sugar Grove Navy Base. Management issues at this location involve controlling Japanese Stiltgrass (*Microstegium vimineum*) encroachment around the margins of the barren and a research project examining SBRC reproductive biology.

In 2017, Wildlife Diversity staff monitored shale barren rockcress within the 1.6-hectare (16,000 sq. m) study grid on the Little Fork Shale Barren. Monitoring results (298 rosettes, with 73 intact flowering bolts, 20 chewed flowering bolts) indicate the population is slightly down from previous years.

Wildlife Diversity staff attempted to monitor SBRC populations on private properties in Greenbrier, Pendleton, and Hardy counties. However, access to those sites was not granted by land owners. Wildlife Diversity botanical staff consulted with Monongahela National Forest ecology staff on a potential new shale barren rockcress location. The resulting investigation determined that the plants were actually the common sicklepod (*Arabis laevigata ssp. burkii*) and not shale barren rockcress.

#### **Harperella (HARP) - (*Harperella nodosum*; = *Ptilimnium nodosum*), endangered**

Over the past 10 years, Wildlife Diversity staff have documented the decline of HARP on three streams in Morgan and Berkeley Counties (Cacapon River, Sleepy Creek, and Back Creek). Monitoring data suggests that land uses in the watershed may be affecting stream hydrology and thus impacting HARP. The streams appear to be “flashier” with bank full flows occurring more frequently and in some locations removing the silt/sand/cobble bars supporting HARP populations.

Continued residential development and resulting deforestation likely increases the frequency and volume of storm water runoff entering the streams. Harperella populations are persisting, albeit in lower number, on cracks in bedrock, silt accumulations between boulders along the streambanks, and occasionally clay banks along the streams. Attempts to reintroduce HARP at historically occupied locations along Sleepy Creek and Cacapon River have met with limited success. The introduced populations persist but are not expanding.

In 2017, Wildlife Diversity staff monitored HARP populations on the Cacapon River, Back Creek, and Sleepy Creek in Morgan and Berkeley counties. Populations at two of the four “part B” segments along Sleepy Creek were down by between 42 percent and 62 percent. One segment increased by 44 percent, and the fourth segment increased by 492 percent. The monitoring results indicate the overall populations of the “part B” segments continue to fluctuate dramatically from sample year to sample year since 2003, varying from 61,335 plants in 2003 to 403,840 plants in 2007, to 106,934 plants.

Wildlife Diversity staff collaborated with Dr. Brian Dickman, a West Virginia University Institute of Technology engineer and hydrologist who is in the second year of a study examining the stream hydro-period within which HARP survives on Sleepy Creek. Dr. Dickman installed equipment to measure changes in stream flow and water level on Sleepy Creek. His objective is to describe the impact of hydrologic fluctuations occurring on Sleepy Creek which appear to be removing large amounts of substrate (silt, sand, and gravel) from historically stable long HARP locations. Data analysis is in the preliminary stages.





### **Northeastern Bulrush (NEBR) - (*Scirpus ancistrochaetus*), endangered**

Northeastern bulrush occupies shallow ponds on sandstone ridges underlain with calcareous rock layers in the eastern panhandle of West Virginia. Wildlife Diversity personnel conducted a monitoring survey of the Pond Run Pond occurrence on the George Washington and Jefferson National Forests in September 2016. The NEBR was thriving, however the wetland supporting the population has been invaded by the non-native invasive plant species, Japanese Stiltgrass (*Microstegium vimineum*), which poses a serious threat to the population. In fall 2017, Wildlife Diversity staff will assist George Washington and Jefferson National Forests personnel in removing the invasive Japanese Stiltgrass. Wildlife Diversity staff monitored the Willis Ridge Long Pond occurrence of NEBR on Sept. 8, 2016, and found the occurrence had been severely disturbed by logging and vehicle traffic through the wetland. Numerous small trees have been felled into the wetland, opening the site to increased sunlight. The wetland was dry at the time of monitoring and NEBR was not observed in historically occupied locations. Northeastern Bulrush populations in West Virginia are declining at known sites due to 1) forest succession that leads to canopy closure and 2) severe disturbance of the black pond habitat by all-terrain vehicles.

### **Small Whorled Pogonia (SWP) - (*Isotria medeoloides*), threatened**

Small Whorled Pogonia, an orchid species, was added to the U.S. list of federally endangered species in 1982, and in 1994 it was reclassified to threatened status. In June 2017, Wildlife Diversity staff monitored all SWP sites in West Virginia with researchers from Smithsonian Environmental Research Center (SERC). All populations were extant and some although one population was down to one plant from four in recent years.

Wildlife Diversity staff collaborated with Dr. Dennis Whigham and Dr. Melissa McCormick from the Smithsonian Environmental Research Center on their study of the ectomycorrhizae (fungi that invade roots of plants and share nutrients with the herbaceous plants and nearby trees) of this species. Severe damage to one of the SWP populations was discovered in 2016, but in 2017, two plants were found present! Our team of cooperators will return to all the sites at the end of September 2017 to continue to monitor the status of these very rare orchids.

### **Virginia Spiraea (VS) - (*Spiraea virginiana*), threatened**

Wildlife Diversity staff monitored Virginia Spiraea populations along the Bluestone River in Mercer and Summers counties in 2016 and 2017. Nine occurrences were visited and two were determined to be extant. Both populations were smaller in area and stem count than the last observation over 10 years ago.

Wildlife Diversity staff monitored VS occurrences along parts of the Greenbrier River that had not been visited in over 10 years. Over 380 VS stems were observed. While these sub-populations populations had been recently experienced high water scouring, the plants appeared healthy, and one four-foot-tall clump of stems displayed six flowering/fruited inflorescences. These sub-populations were found growing on riverside scour plain.

### **Maximum Entropy Habitat Modeling**

With financial support from the U.S. Fish and Wildlife Service (USFWS), the Wildlife Diversity Unit is working with Dr. Crystal Krause, (Davis & Elkins College) to develop habitat models using a program called Maximum Entropy to develop habitat models for the six listed plant species. Using data from across the range of the federally listed plants that occur in West Virginia, we ran the computer models with the goal of producing results that may be used to predict the optimal habitats for each plant species and determine their locations throughout the range of each species.

Habitat distribution models are of interest to the USFWS, U.S. Forest Service (USFS), Natural Resources Conservation Service (NRCS), and Nature Serve to better predict where the species are likely to occur. Our goals are to: 1) identify which environmental variables were most limiting to each species, 2) examine model predictions of suitable habitat and 3) develop field surveys to maximize the likelihood of finding new populations.

A limited amount of field validating of the models has been conducted, and to date the RBC, VS, and SBRC models seem to be the best models. The draft models have been shared with the USFWS and Natural Heritage Programs around the country who contributed their occurrence data to the project. The goal of modeling habitat and species distribution is to develop tools that will better guide regulatory actions by the USFWS and assist the NRCS and other federal agencies, plus the Wildlife Diversity staff to more accurately predict where suitable habitat may be found for these species. This will assist in improving surveys for these rare species.

#### **Coordination and Cooperation with State Botanists**

Wildlife Diversity botanical personnel continued to work with curators of herbaria throughout the state. Curators of plant collections at West Virginia University, Marshall University, West Virginia Wesleyan University, Fairmont State University, and Davis and Elkins College work closely with our staff in updating, correcting, and cooperatively distributing botanical voucher specimen data and distribution data as requested.

#### **West Virginia Natural Heritage Rare Species Database (Biotics 5)**

The West Virginia Natural Heritage Program (WVNHP) inventories, maps, and maintains data on the natural biological diversity of the state, including natural ecological communities and rare plants and animals. Rare plant, animal, and community data is maintained in the Biotics 5 database.

Rare plants, animals, and communities are known as elements within Biotics. The area of land where the element is or was located is the element occurrence (EO). Biotics utilizes both spatial and tabular data to document these occurrences. This data is then provided to land managers to help to form the basis for conservation planning and expenditure throughout the state.

The West Virginia Natural Heritage Program (WVNHP) Data Manager worked with NatureServe to complete updates to the Biotics 5 database. First, a central to local bulk upload was completed. This upload was a one-time catch up step to deliver data missing from our program's version of Biotics before further data exchanges can be initiated. The process added and updated all centrally-maintained "Active" global records in our version of Biotics. Second, a local to central EO bulk upload was conducted. This uploaded our program's latest EO data to NatureServe central.

The WVNHP Data Manager also responded to eight data requests from cooperating agencies and researchers needing EO data for a variety of research projects within the state.





## **Aquatic Community Assessment and Restoration Program (ACARP) Fish Surveys**

Wadable and small stream surveys continued to assess the status and distribution of West Virginia fishes. The ACARP team implemented a protocol for fish sampling non-commercial rivers (our methodology for large rivers using boat and or rubber-raft electrofishing equipment is based on modified U.S. Environmental Protection Agency protocols for the National Rivers and Streams Assessment); a special project was completed in the spring of 2017 to evaluate the status of the Candy Darter, a New River endemic, which will likely be listed as a Federally Endangered Species in the fall of this year; this darter is disappearing due to hybridization with an introduced close relative (i.e., Variegated Darter); and, assistance was rendered to the U.S. Fish and Wildlife Service's Ohio River Islands National Wildlife Refuge in sampling fishes in waters associated with six islands in the Parkersburg area.

In summary, 98 surveys were completed in 15 sub-watersheds, which fulfilled program needs for inventory, monitoring and other evaluation objectives of the stream assessment program (Figure 6). Among those surveys completed in 2016 and early 2017, assistance was provided to the Environmental Coordination, Coldwater Fisheries, and Warmwater Fish Management units of the Division, and West Virginia Wesleyan College, West Virginia University, the U.S. Fish and Wildlife Service, U.S. National Forest Service, and the U.S. Army Corps of Engineers. Twenty boat and 10 raft surveys were also completed to validate a quantitative protocol for non-wadable streams.

Work continued on a West Virginia Fish Atlas, which will document the distribution and status of all West Virginia species. Efforts were expended on the following aspects of the project: maps summarizing 9,000 records for 190 species were completed and the species accounts were initiated; approximately 70 color photographs of state fishes were taken during the last year; and, additional keys to certain families were finalized.

### **Spotted Turtle (*Clemmys gutatta*)**

Spotted turtles are thought to be declining range-wide, and have experienced significant declines in West Virginia. Currently, only two populations of spotted turtles are known to be extant in the state. Beginning in March 2017, the WVDNR began a long-term mark-recapture project to better understand the population dynamics of spotted turtles at these two locations. WVDNR Biologists used collapsible mesh minnow traps baited with sardines to capture spotted turtles during 3-day trapping sessions in both March and June 2017 for a total of 50 trap days. To date, 36 individual spotted turtles; 17 males, 11 females, and eight juveniles, have been captured and uniquely marked using shell notching and PIT tags. Trapping will continue at both sites, with an additional trapping session scheduled for October 2017.

### **Wood Turtle (*Glyptemys insculpta*)**

In September 2016, with the assistance of Dr. Tom Akre (Smithsonian Institute) and Special Agent Bryce Findley (USWFS), 15 wood turtles, poached from the Cacapon River watershed earlier in 2016, were released back into the Little Cacapon River (5 turtles released) and Cacapon River (10 turtles released). Each of the released wood turtles had been quarantined at the Smithsonian Institute's Conservation Biologist Institute in Front Royal, Virginia prior to release. Each wood turtle was cleared by an American Association of Zoo Veterinarians Standard Certificate of Veterinary Inspection to verify that the turtles were free of disease and injury. A wood turtle was reported in the Shenandoah river watershed, near Shannondale, West Virginia. This is the first wood turtle to be reported in the Shenandoah River in West Virginia, though wood turtles have been documented in the Shenandoah in Virginia.





### **Timber Rattlesnake (*Crotalus horridus*)**

WVDNR biologists have initiated a citizen science effort to help document the current distribution of the timber rattlesnake in West Virginia. An online reporting system was developed and made available to the public in April 2017 to allow the public the ability to report their observations of timber rattlesnakes. As of June 30, 2017, WVDNR has collected 95 timber rattlesnake observations from across the state. In addition, Diversity staff worked with the Office of Communications to develop rack cards to inform the public about the web reporting site and encourage the public to contribute observations. In July 2016, six rock structures were constructed on the Monongahela National Forest to create timber rattlesnake basking and birthing habitat. The structures were a success with timber rattlesnakes being observed using each structure in April and May. Instructions for creating these structures were written down and provided to the Game Management Unit for use in land management plans.

### **Snakes – Sideling Hill WMA**

Fifteen cover board sites were established on the Sideling Hill WMA and monitored to inventory snake diversity. To date, three species of snakes have been documented on the WMA, including gray ratsnake (*Pantherophis spiloides*), formerly black ratsnake (*P. allegheniensis*), timber rattlesnake (*Crotalus horridus*), and eastern worm snake (*Carphophis amoenus*). Cover board sites will continue to be monitored to further assess the snake diversity on the WMA. Multiple timber rattlesnake neonates have been documented on the WMA indicating that reproduction is occurring on site. WVDNR biologists will remain vigilant and try to locate and protect timber rattlesnake birthing areas on the WMA.

### **Amphibian Disease**

Diseases, such as ranavirus and chytrid fungus, have been one of the leading causes of amphibian decline worldwide. A recent project completed by several Mid-Atlantic states, including Maryland and Virginia, both states bordering West Virginia, determined that ranavirus was more widely distributed throughout the region than originally thought. West Virginia has had several ranavirus related die-off events, all involving eastern box turtles (*Terrapene carolina*). To better understand the distribution and prevalence of ranavirus in West Virginia, we collected tail samples from wood frog (*Lithobates sylvaticus*) tadpoles at nine pools throughout District 2. In total, 270 samples were collected; 30 samples at each pool. Samples were frozen and will be sent to the Southeast Cooperative Wildlife Disease Study (SCWDS) for diagnostic testing.

### **Stream Salamanders – Sideling Hill WMA**

Ninety meters of stream were surveyed on the Sideling Hill WMA to inventory stream salamanders occurring on the WMA. To date, two species have been documented, including the northern spring salamander (*Gyrinophilus porphyriticus*) and seal salamander (*Desmognathus monticola*). Surveys will continue to further assess the salamander diversity on the WMA.

### **Eastern Spotted Skunk (*Spilogale putorius*)**

Between January 9 and February 21, 2017, 10 camera trap sites were established across the Nathaniel Mountain WMA, Hampshire County, West Virginia, including three sites established at, or near, historical records of eastern spotted skunks on the WMA. At each trapping location, cameras were attached to small trees with the camera lens about 0.5 meters from the ground. The trap site was baited with both a portion of a road-killed white-tailed deer (*Odocoileus virginianus*) carcass and a can of sardines placed approximately 1.8 meters from the camera location. The can of sardines was secured to a tree approximately 0.5 meters from the ground. The camera was set to take a picture in response to motion with an interval of one minute to allow for multiple photos of each animal triggering the camera. Cameras detected 22 species of mammals and birds, but eastern spotted skunks were only detected at one reference site. Eastern spotted skunks were detected at this site over nine, non-consecutive days between January 14 and 26. Additional surveys will take place on the Nathaniel Mountain WMA between December 2017 and February 2018. In March 2017, three eastern spotted skunks, two males



and one female, were captured and radio collared to provide additional data on the demographics and movements of the species in West Virginia. The female has been tracked multiple times per week since initial capture. One eastern spotted skunk kitten was documented on June 29, 2017. One of the male eastern spotted skunks moved over seven miles from the capture site, and the other male is presumed dead as the collar was found without a body.

### **Small Mammals – Sideling Hill WMA**

Six trapping sites were established on the Sideling Hill WMA to inventory small mammal species occurring on the property. Trapping sessions consisted of 50 Sherman live traps arranged in a 50 m x 100 m set-up, with every trap separated by 10 m. Traps were checked two times daily, once in the morning and again in the late afternoon, to reduce the risk of capture related death and injury. To date, two sites have been trapped for a total of 300 trap nights (six nights x 50 traps a night). A total of 41 animals were captured between the two sites. Seven white-footed mice (*Peromyscus leucopus*) at site one, and 34 animals at site two; (28 deer mice (*Peromyscus maniculatus*); 5 southern red-backed voles (*Clethrionomys gapperii*); one eastern chipmunk (*Tamias striatus*). Four additional sites will be trapped on the WMA in the fall of 2017.

### **Endangered Species Program**

#### **West Virginia Northern Flying Squirrel**

The West Virginia northern flying squirrel was recently removed from the federal endangered species list, but this squirrel is still considered a Forest Sensitive Species on the Monongahela National Forest, and in the 2015 State Wildlife Action Plan, the WRS identified the species as a Priority 1 Species of Greatest Conservation Need. The WRS received funding from the U.S. Fish and Wildlife Service (USFWS) to continue post-delisting monitoring this fiscal year. This species is found in the higher elevations of the state and is associated with red spruce and red spruce/northern hardwood forests.

West Virginia northern flying squirrel nest boxes were monitored by Program biologists at 12 sites to obtain data on the distribution and population trends of this rare mammal. Each site has 15 to 20 nest boxes which are monitored in spring and fall. No northern flying squirrels were captured in fall 2016. During the first half of 2017 six northern flying squirrels were captured. No northern flying squirrels were captured in the WVDNR nest boxes, but U.S. Forest Service (USFS) biologists captured three northern flying squirrels at one site and a consultant captured three squirrels at another site. To date, 1,551 northern flying squirrel captures have been documented in the State.

#### **Federally Listed Bat Species**

Two endangered bat species occur in West Virginia: the Indiana bat and the Virginia big-eared bat. In addition, the northern long-eared bat was recently listed as federally threatened due to significant population declines since 2009 due to the fungal disease known as White Nose Syndrome (WNS). On August 9, 2016, a male gray bat, another federally endangered species, was captured in Logan County. This species is considered accidental in the state and not a resident species. The last gray bat record for West Virginia was in 1991.

WNS has killed millions of cave bats in the eastern United States and Canada. The disease, which affects several species of bats while they hibernate, was first observed in West Virginia in January 2009. The fungus that causes the disease grows well in the cold, humid conditions found in caves, and during hibernation the bats' immune systems are compromised and less able to fight off the infection. By the end of winter 2009-2010, WNS was documented in six counties: Greenbrier, Hardy, Jefferson, Mercer, Monroe, and Pocahontas. By the end of winter 2011-2012, WNS had been observed in 14 counties in West Virginia including nearly all counties with cave resources. Because bats often travel long distances from their summer habitats to their hibernation sites, the impacts of WNS in the State's hibernacula has impacted bats statewide.

During winter 2016-17, WVDNR personnel conducted winter bat surveys in 22 caves to monitor populations of hibernating bats. In addition, consultants and the National Speleological Society provided data for three additional caves. Hibernation caves are usually surveyed every other winter to minimize disturbance to the bats. During these winter surveys, all bats present were counted. Because WNS can possibly be spread by people visiting caves, biologists conducting bat surveys followed accepted disinfection protocols to clean gear and clothing between cave trips. Hellhole, the state's most important bat hibernaculum, was surveyed on February 25, 2017. The 25 caves surveyed this past winter contained a total of 19,201 bats of seven species. In decreasing order of abundance these were: Virginia big-eared bat (Hellhole, located in Germany Valley, is the largest known hibernaculum for this bat), little brown bat, Indiana bat, tricolored bat, big brown bat, small-footed bat, and northern long-eared bat.

Virginia big-eared bats do not seem to be impacted by WNS, and their numbers are increasing. The winter 2016-2017 count was the highest on record with 15,354 Virginia big-eared bats tallied; over 13,000 were in Hellhole. The little brown bat was once one of the most common bats in the state; by 2014, WNS reduced the population by more than 97 percent. Winter surveys conducted in 2016 showed that the number of little brown bats in caves surveyed in both 2014 and 2016 increased 17 percent between the two surveys. The number observed in caves surveys this past winter showed an increase of 19 percent over the 2015 total. While the number of bats remaining is still much lower than pre-WNS numbers, an increase in numbers suggests this species may be starting to recover from the devastating impacts of WNS.

Unfortunately, Program biologists are documenting continued declines in other bat species. The winter 2017 surveys documented a further 50.8 percent decline in Indiana bats and a 23.9 percent decline in tricolored bats since 2015 (the last year these caves were surveyed). Hellhole has the largest concentration of endangered Indiana bats in the state. There used to be more than 18,500 Indiana bats hibernating in the cave; the 2017 survey counted only 794 Indiana bats, a decrease of nearly 96 percent. Northern long-eared bats are not often observed in caves in West Virginia, so winter surveys don't provide a good way to monitor their populations. Summer bat mist netting data suggest that this species has declined, but the decline does not seem to be as severe as it has been for little brown bats. For example, from May 15, 2017 through June 30, 2017, mist netting surveys conducted in West Virginia captured 217 northern long-eared bats, but only three little brown bats were captured during this time.

Because WNS affects bats during hibernation, migratory bats which move south for the winter rather than enter hibernation, are not affected. Migratory bats include the eastern red bat, hoary bat, and silver-haired bat. Unlike other bats in the state, Virginia big-eared bats form summer maternity colonies that use caves to rear their young. WVDNR biologists monitor the bats in these colonies each June using night vision equipment and infra-red lights to count the bats as they emerge in the evening to feed. The June 2017 count was the highest summer count on record with 9,416 bats counted at 11 maternity colonies located in Grant, Pendleton and Tucker counties. This is an increase of 4.6 percent over the 2016 counts. This too indicates that this species is not impacted by WNS.

To gather data on the distribution and abundance of bats across the state and to document population changes caused by WNS, the WVDNR and USFS began establishing bat monitoring acoustic survey routes across the state in 2009. Routes are 20-30 miles long and driven at 20 mph while recording bat echolocation calls using an ultra-sound detector. In summer 2012, 77 routes were run, most three times during the summer, for a total of 5,842 mi of surveys. After 2012, most of the routes were run on an every-other-year basis. In 2016, the routes run in 2014 were surveyed once again, and in 2017 the routes run in 2015 were re-surveyed. In addition to the USFS, assistance in conducting acoustic surveys has been provided by USFWS-WV Field Office, USFWS-National Wildlife Refuges, West Virginia Division





of Highways, the Oglebay Institute, National Park Service, and volunteers. Information gathered from this project will allow biologists to track changes in bat populations over time as WNS progresses, to locate areas where remnant populations of bats continue to exist (post-WNS), and, hopefully, to document areas where recovery is occurring.

Program personnel and USFWS personnel worked with Greer Limestone, Inc. to establish a monitoring plan to ensure that quarry expansion in Germany Valley will not negatively impact important bat caves, including the state's most important hibernaculum, Hellhole. Temperature and barometric pressure monitors were placed in Hellhole and Schoolhouse Cave and a weekly report of the results of this monitoring is sent to the WRS and USFWS, although there have been some problems encountered because of lightning knocking out communication links. In addition, Program personnel and USFWS are working with Greer (which leases the entrance of Hellhole from a private landowner) to stabilize the entrance of the cave. During the 2017 bat survey, a large rock was found to have moved downslope and was hanging over the middle of the three entrances to the cave located within a large sinkhole. This entrance had been the safest entrance to access the cave, but was determined to be too unstable to use for the 2017 bat survey. We are working with Greer to stabilize this entrance so it can be used for the 2019 bat survey.

Program biologists continued to work with wind power developers to reduce bird and bat mortalities at wind farms. Most bat mortalities occur on warm nights with low wind speeds. By restricting operations during these times (when power production is low), bat mortalities can be reduced.

#### **Cheat Mountain Salamander**

Dr. Tom Pauley, a retired professor at Marshall University, Huntington, was contracted to draft a monograph on the Cheat Mountain salamander based on his 35+ years of work with this species and to develop a survey protocol for this salamander. During this fiscal year, drafts of these documents were sent to the WVDNR, USFWS, and USFS to review.

Program biologists have been working with USFWS and USFS personnel and consultants for the WBXpress pipeline project. The project proposes to expand the pipeline through known occupied Cheat Mountain salamander habitat. The project was modified to minimize impacts to Cheat Mountain salamanders, but impacts could not be avoided. The company entered into formal consultation with the USFWS, and this process is still in progress, but near completion..

#### **Federally Listed Crayfish**

In 2016, the USFWS listed two crayfish species, the Big Sandy crayfish and the Guyandotte River crayfish, as federally threatened and endangered, respectively. Both species occur in West Virginia, and the Guyandotte River crayfish is endemic to the State. A life history study on the Guyandotte River crayfish was initiated in June 2017. A large study to examine several aspects of the ecology and life history of both listed crayfish is planned to begin at West Liberty University during the next fiscal year. A spill from a surface mine entered into a tributary of Clear Fork in early 2016. Clear Fork has the best remaining population of the Guyandotte River crayfish. Program biologists placed conductivity loggers in the Clear Fork to monitor conditions as the sediments move downstream.

### **Allegheny Woodrats**

Although WVDNR biologists established long-term monitoring sites for Allegheny woodrats, many of these sites had not been visited recently because personnel and resources were focused on addressing WNS impacts to bats. Populations of woodrats have been declining in the Northeast and this is a Priority 1 Species of Greatest Conservation Need in the 2015 State Wildlife Action Plan. This species is usually associated with caves and rock features such as cliffs and talus. In August and September 2016, three of these long-term sites were resurveyed using the standard methodology (40 live traps baited with apple set on two consecutive nights). Unfortunately, no woodrats were captured at any of these sites in 2016. Additional sites will be trapped during the next fiscal year. Observations of Allegheny woodrats or woodrat sign (latrines, middens, etc.) were recorded when observed while conducting bat work in caves.

### **State Wildlife Action Plan (SWAP)**

The U.S. Fish and Wildlife Service approved the West Virginia State Wildlife Action Plan (SWAP) in September 2016. The SWAP identifies 21 Conservation Focus Areas in the state where opportunities for species and habitat conservation exist. All activities identified in the SWAP are funded through a variety of sources including State Wildlife Grants (SWG), Wildlife and Sportfish Restoration, and Section 6 (Endangered Species Act) grants. Some non-federal aid funding is also utilized. Actions funded through SWG grants are required to address actions identified in the SWAP.

In 2017, SWAP outreach and conservation activities occurred in the Cacapon and Patterson Creek Conservation Focus Area (CFA), the Greater Greenbrier CFA, and the Gorges CFA.

### **Cacapon and Patterson Creek Conservation Focus Area**

Wildlife Diversity staff collaborated with the Lost River and Cacapon Land Trust on identifying and prioritizing properties for restoration action and conservation easement acquisition. A public presentation about the SWAP and the Cacapon and Patterson Creek CFA was held for the Hardy County and Wardensville Chamber of Commerce in Wardensville.

### **Greater Greenbrier Conservation Focus Area**

Wildlife Diversity staff presented cave and karst conservation priorities to the West Virginia Speleological Society. Two sinkhole cleanups occurred in the Milligan Creek watershed. Cave surveys and mapping occurred in the karst region of Monroe County in the CFA. Staff worked with a researcher at West Liberty University to develop a citizen science survey for Greenbrier Cave Crayfish.

### **Gorges Conservation Focus Area**

Wildlife Resources staff met with the leadership at New River Gorge National Park about collaborating on a detailed conservation focus area plan.

### **Other Outreach Efforts**

State Wildlife Action Plan (SWAP) outreach material developed in this fiscal year includes a comprehensive mailing list database of potential stakeholders and conservation partners. Staff also developed SWAP flyers (handouts) describing the SWAP and cave-karst conservation factsheets. Staff developed conservation focus area descriptions to be placed on the agency website and for distribution at public meetings.

### **Technical Assistance**

Wildlife Diversity staff collaborated with Harpers Ferry National Historic Park planners to incorporate SWAP actions into the National Historic Park stewardship plan revision. The Wildlife Diversity Unit initiated an agreement for a third shared biologist position with the NRCS. This position will promote Monarch butterfly and pollinator habitat creation and restoration on private lands.





## TECHNICAL SUPPORT UNIT

---

### Planning Program

The fish and wildlife planner coordinating with WRS staff continued work on the Wildlife Resources Section Capital Improvements Strategic Plan. Assistance was provided in developing the Division's annual Budget Narrative. Fiscal notes were prepared and submitted on legislation during the 2017 legislative session.

### Coordination Program

The Coordination Unit continues active participation with applicants, operators, West Virginia Department of Environmental Protection (DEP), and the Federal Energy Regulatory Commission (FERC) on Hydropower projects in West Virginia (compliance coordination with currently licensed hydropower projects, impact analysis, development of mitigation plans and document review associated with the licensing and relicensing process, etc). Actions were taken on each of the following proposed or currently licensed hydropower projects: Millville Dam on the Shenandoah River; Jennings Randolph Dam on the Potomac River; Lake Lynn Dam on the Cheat River; Hawks Nest Dam/Glenn Ferris on the New River; Robert C. Byrd Dam, New Cumberland Dam, Racine Dam, and Willow Island Dam on the Ohio River; and Opekiska Dam and Morgantown Dam on the Monongahela River. During this reporting period, three projects were in the relicensing process, four projects were in the licensing process, and three projects had been licensed and were in the construction phase. Fourteen projects are currently licensed and fully operational within West Virginia for an estimated combined output of 449.1 MWH.

One new wind project has been proposed for West Virginia, and a second has been resubmitted for consideration for the third time. The new project, Black Rock, is in Grant and Mineral counties and is adjacent to the NED Power facility at Mt. Storm. Approximately 20 turbines are associated with this project. This project is in the very early stages of development and coordination has been initiated. The second project is the Liberty Gap facility on Jack Mountain in Pendleton County. This facility will have approximately 30 turbines. The Liberty Gap facility is a high-risk project because it is located within a priority habitat for the endangered Virginia big-eared bat. Coordination to minimize impacts to birds and bats with the existing New Creek wind facility continues.

The Coordination Unit continues participation in the National Environmental Policy Act (NEPA) process for several major highway projects and numerous smaller highway, bridge, and culvert improvement projects. Eighty-two bridges, 52 culverts, 24 bank stabilizations and 56 flood damaged structures (bridges, roads culverts) from the June 2016 floods also received attention. Working with the West Virginia Division of Highways (DOH), staff continues to negotiate new mitigation plans for Corridor H. Alignment modifications are now being considered to avoid impacts to the federally threatened small whorled pogonia. Mitigation options that have been studied by our staff in conjunction with DOH also include Aquatic Organism Passage projects.

The Coordination Unit continues to provide technical support for Clean Water Act (CWA) Section 401 and River and Harbors Act Section 10 certifications to DEP under the Memorandum of Understanding (MOU) with DEP. The Coordination Unit reviewed and submitted comments on behalf of the WRS for highway reviews, wetland and stream restoration, and economic development projects. Considerable mitigation in the form of avoidance, reduction of potential impacts, restoration, and enhancement of aquatic resources has been secured as a result of these efforts. Coordination staff responded to requests from DOH, local officials, state officials, and numerous watershed groups for information on permitting issues relating to wetland/stream disturbance, mitigation obligations, permit compliance, Natural Stream Design, and other related topics. Staff provided review and comment on potential endangered species issues to West Virginia Voluntary Organizations Active in Disaster Relief regarding flood-related private bridge repair and replacement projects. Comments were provided to the U.S.

Army Corps of Engineers (COE) for several projects on the Kanawha and Ohio rivers (recreational docks, barge facilities, maintenance dredging).

Staff coordinated with the West Virginia Conservation Agency (WVCA) on 11 Natural Stream Restoration projects using principles of Natural Stream Design to resolve significant bank stability issues on private lands. Projects were reviewed and authorized on Knapps Creek, South Fork of the South Branch, North Fork of the South Branch, Whitethorn Creek, and Little Cacapon. These projects involved implementing minor modifications to channel dimensions and in-stream structures in place of traditional hard armor engineering (riprap). Coordination continues on the Lower Cove Run Dam site #16 Flood Control and Water Supply. Natural Resource Conservation Service (NRCS) has submitted a revised permit application for the project that has several significant discrepancies from the original permit application. Staff reviewed and commented on the Upper Deckers Creek Dam Improvement Project 401 Certification application.

Significant time continues to be spent working with DEP and the COE evaluating and refining the science-based assessment protocol (West Virginia Stream and Wetland Valuation Metric (SWVM)) for stream and wetland disturbance activities. Staff serves on the Interagency Review Team (IRT) that was established to review, comment and approve Mitigation Banks and In-Lieu Fee (ILF) projects. Staff attended field reviews and provided design input for the development of several newly proposed mitigation banks. Staff verified yearly monitoring reports at existing mitigation banks. Staff expended considerable efforts this year coordinating a number of ILF projects including major stream and wetland restoration projects on Hillcrest WMA, Old Field Fork, Tug Fork WMA, Frozen Camp WMA, Mill Creek WMA, McClintic WMA, Greenbottom WMA, Lakin State Farm, and Dunloup Creek. The ILF program has committed \$42 million to projects as of this reporting period. There are 15 approved Mitigation Banks, an additional nine banks in development, six approved ILF projects, and 4 pending projects currently being administered by the IRT.

The new Nationwide Permits (NWP) were authorized by the state in May of 2017. The Unit expended considerable time coordinating with the COE and DEP establishing regional, special, and standard 401 conditions for the new NWP. Three Regional General Permits (RGP) required attention this reporting period. The Regional General Permit for Stream Restoration and Management by Individual Landowners (RLOP) was issued in June 1996, and since issuance approximately 3,065 applications have been reviewed and/or processed. Unfortunately, the COE determined that the RLOP was redundant and these projects could be permitted using existing NWP. Staff expended considerable time coordinating with WVCA, COE, and DEP to formulate a Memorandum of Understanding (MOU) and standard operating procedures between all agencies involved. The MOU was officially signed during this reporting period and eight Stream Management Plans have been reviewed and recommended for authorization. The Abandoned Land Mines RGP expires in September of 2017. Coordination staff participated in several meetings with the COE, DEP, and the Office of Abandoned Mine Lands to improve and eventually re-issue the permit this reporting period. The WVCA utilizes a RGP to expedite authorization of recovery projects after declared disasters (June 2016 flood). The permit expired this reporting period and we have been actively coordinating with DEP, WVCA and the COE to improve and re-issue the RGP.

Coordination continues in the development of a science-based assessment model for wetlands. The model will also be used to monitor and assign compensatory mitigation for unavoidable wetland impacts. WVDNR partnered with DEP to complete the model and Coordination staff assisted DEP with field testing of the model this reporting period.

Staff is active in providing coordination with the Marcellus Shale Gas industry in an attempt to mitigate impacts to our charge resources. Staff reviewed various applications for oil and gas related activities,





including well locations, pipeline activities, electrical substations, and midstream plant construction. Technical support was provided to DEP Office of Oil and Gas and to Waste and Water concerning impacts to fish and wildlife associated with oil and gas production and transmission. Support was also provided to Fish and Game Management Units, the Division of Forestry, and the Parks and Recreation Section, for oil and gas activities on Lewis Wetzel WMA, Frozen Camp WMA, Underwood WMA, O'Brien Lake WMA, Burnsville Lake WMA, Kumbrabow State Forest and Seneca State Forest.

Technical assistance continues with DEP concerning stream impacts from construction of transmission lines and midstream gas processing facilities and the associated stream restoration projects required as mitigation. Staff has provided assistance to DEP, COE and U.S. Environmental Protection Agency (EPA) for review of Section 404 violations at numerous oil and gas construction sites and related wetland, stream mitigation, and restoration activities. Assistance was also provided to industry related to development of Best Management Practices (BMPs) for stream crossing activities. Staff provided continued support to the U.S. Fish and Wildlife Service (USFWS) in protecting their charge resources potentially impacted by the oil and gas industry. NEPA review, as a cooperating agency, was provided to FERC for several proposed natural gas pipelines. Staff developed and analyzed methodology for implementation of a new mitigation initiative for impacts to core forests and interior forest wildlife species from pipeline construction. Potential procedures and avenues for disbursement of mitigation funds through available funding instruments and a cooperative agreement with a third-party fiduciary were also developed.

Staff has assumed the lead role for the issuance of fish spawning waivers, as required by the 2017 Nationwide Permits. The Coordination Unit requests and compiles the necessary information which is then provided to the relevant District Fisheries Biologists. Staff developed standard templates and is working with Fisheries Management to develop protocols for the issuance of waivers. Coordination staff has been working closely with Fisheries Management and the Office of Land and Streams on revisions to Right of Entry License Agreement conditions.

Coordination Unit staff continue working with USFWS staff to develop the Ohio River Islands National Wildlife Refuge Habitat Management and Hunt Plans. Work continues on the Canaan Valley Habitat Management Plan. Support was also provided to Canaan Valley National Wildlife Refuge for a pipeline replacement project in a refuge wetland. Coordination continues with minor projects requiring NEPA review for the U.S. Forest Service - Monongahela National Forest.

Staff serves on several committees including the Interagency Review Team (mitigation banking, in-lieu fee), the Water Gaging Council, State Association of Wetland Managers, Congressional Committee on Flood Recovery, In-stream Flow Council, AFWA Hydro-power working Group, and the NRCS State Technical Committee for Farm Bill programs.

Three hundred and thirty-two Scientific Collecting Permits were issued to researchers, consultants, government agencies and educators, among others. Three permits were denied due to lack of experience needed to conduct endangered species surveys. Approximately 700 projects were reviewed for the occurrence of rare, threatened and endangered species. Projects included proposed coal mines, sewer and water lines, natural gas pipelines, Marcellus well sites, West Virginia Division of Highways projects, and forest management.

Staff offers assistance to other sections and participates in numerous game and fish management activities including but not limited to National Hunting and Fishing Days Celebration, fish stocking, fish surveys and deer counts. Staff participates in various programs such as Randolph County Outdoor Education, Wirt County Wetland Day, Master Naturalist, Jakes Days, and 4-H. Staff informs participants of the success and importance of wetlands and the CWA.





## Biometrics/Geographic Information System (GIS) Program

Staff provided routine installation, maintenance, and support of computer hardware, software and peripherals for the WRS, funded by traditional sources including grants and contracts (USFWS and USEPA).

Staff continued assisting with new and ongoing WRS projects and activities. Activities included performing data processing; project design and analysis consulting; conducting data analysis; preparing paper and electronic map products; technical training; computer maintenance; and support for WRS budgeting, personnel, and inventory.

Annual routine projects supported included managing the WRS's work report system, producing game harvest and trout stocking summaries, summarizing spring gobbler survey results, summarizing responses from the grouse cooperator survey, summarizing bow hunter survey results, processing antlerless deer and black bear eligibility notices for mailing, summarizing statewide hunter prospects and mast surveys, summarizing accomplishments for the Game Management Unit, and preparing federal aid vouchers and monthly summaries for all projects. Maintaining and managing hunter and boater databases for the Law Enforcement Section were continued.

GIS staff provided training and technical assistance to WRS staff on GIS and Global Positioning Systems (GPS) data acquisition and dataset development, GPS data management, GIS application use, cartography, large-format printing, and spatial data analysis. Existing GPS collection, processing and organization procedures were further refined to help streamline the tracking of GPS data collection activities. These geospatial services were provided for WRS projects operating statewide to ensure the collection of well-documented and accurate locations of field survey data. GIS staff has deployed GIS capabilities in district offices and with cooperating agencies, and provided ongoing staff instruction as requested.

GIS staff is maintaining and managing more than three terabytes of natural resource base mapping information ranging from statewide aerial photography, satellite imagery, topographic maps, soil surveys, geology, elevation models for visualization and watershed modeling, streams, wetlands, public fishing lakes, demographics, political boundaries, land use/land cover, and other miscellaneous natural resource datasets. Use of these GIS datasets by agency staff continues to grow and become incorporated into the daily workflow and basic analysis of project data for management of state lands.

All of this natural resource GIS data is maintained in a central database server used to store and share data and project management information throughout the agency. This secure central database server is available to agency staff and cooperating agencies across the internet, enabling data processing, spatial analysis, and cartographic expertise at a central office to be available cost-effectively throughout the agency. Database management and application development progressed in a continuously evolving GIS program.

GIS staff responds to requests for data from engineering firms, contractors, partners, and other federal/state organizations as needed. Staff provides data as appropriate to support WRS projects, activities, and interests.



### **Recreational Resources Mapping**

Staff redesigned the online Hunting, Trapping and Fishing Map Application. This tool provides the public increased access to WRS facilities including WMAs, stream access, float trips, check stations, licensed agents, trout stocking information, physically challenged or Class Q opportunities, district office contact information, and links to online resources for license purchases and regulations. Although most of the information can be found at the WVDNR website, the Web-tool provides a geographic representation of opportunities/resources in a map interface, which is visually appealing, familiar, and will be scalable as use and demand grow. The tool is now mobile device friendly, has a newer, modern look, and the programming language updated away from a legacy product.

### **WV State Wildlife Action Plan (SWAP)**

Species database support, GIS analysis, data organization, metadata, and map layouts continued for Conservation Focus Area Plans as part of SWAP annual updates and revisions. Work continued on validating species distribution models to estimate statewide distributions of species and habitats for the SWAP and Interagency Coordination Tool.

### **Interagency Coordination Tool**

A Web-based tool is maintained in cooperation with NRCS and USFWS to provide rare species data to assist District Conservationists in protecting these species as they install NRCS conservation practices.

## A

Administration 1,64  
Allegheny Woodrats 99  
American Kestrel 79  
American Woodcock 79  
Amphibian Disease 95  
Annual Mast Survey 72,75  
APS License Sales 8  
Aquatic Community Assessment and Restoration Program 94  
Aquatic Community Assessment and Restoration Program (ACARP) Fish Surveys 94  
Audra State Park 51

## B

Babcock State Park 52  
Bald Eagle 79  
Bank Swallow 80  
Barn Owl 80  
Beartown State Park 52  
Beech Fork State Park 52  
Berkeley Springs State Park 52  
Biometrics/Geographic Information System (GIS) Program 103  
Black Bear 71,74  
Blackwater Falls State Park 53  
Blennerhassett Island Historical State Park 53  
Blue Catfish 74,77  
Bluestone State Park 53  
Boards and Commissions on which the Director Serves iv  
Boating Safety/Education Program 39  
Botany 89  
Breeding Bird Survey 80  
Budget 11  
Business Technology 2  
Butterflies 85

## C

Cabwaylingo State Forest 53  
Cacapon and Patterson Creek Conservation Focus Area 99  
Cacapon Resort State Park 53  
Camp Creek State Park 53  
Canaan Valley Resort State Park 54  
Capital Improvements 65  
Carnifex Ferry Battlefield State Park 54  
Cass Scenic Railroad State Park 54  
Cathedral State Park 55  
Cedar Creek State Park 55  
Cerulean Warbler 80  
Channel Catfish 74,77  
Cheat Mountain Salamander 98  
Chief Logan State Park 55  
Chimney Swift 81  
Combining Statement of Revenues, Disbursements and CHanges in Cash Balances Fiscal Year 2016–2017 17  
Commercial Dredgers Report 36  
Construction and Design Projects in progress by June 30, 2017 62  
Coopers Rock State Forest 55  
Coordination and Cooperation with State Botanists 93  
Coordination Program 100  
Customer Relations 3

## D

Design Projects completed 62  
DNR District Map v  
DNR Organizational Chart iii  
Droop Mountain Battlefield State Park 55

## E

Eastern Spotted Skunk 95  
Eastern Whip-poor-will 81  
Ecology 87  
EEOC Statement iv  
Elk 70,74  
Endangered Species Program 96  
Environmental Reviews 68

**F**

Federally Listed Bat Species 96  
Federally Listed Crayfish 98  
Federally Listed Plants 89  
FISCAL SERVICES 11  
Fisheries and Habitat Surveys 74  
Fisheries Survey Projects 74  
Fish Hatchery Program 73  
Fish Health Surveys 75,78  
Fishing Tournament Coordination 75,79  
Fish Management 72  
Fish Management 72  
Fleet Management 1  
Forks of Coal Natural Area 56

**G**

Game Management 66,70  
Golden Eagle 81  
Golden-winged Warbler 81  
Gorges Conservation Focus Area 99  
goWILD! ONLINE License Sales 6  
Greater Greenbrier Conservation Focus Area 99  
Greenbrier River Trail 55  
Greenbrier State Forest 56

**H**

Habitat and Water Quality Enhancement 75  
Harperella 91  
Harperella (HARP) 91  
Hatchery Improvements 74,77  
Hawks Nest State Park 56  
Holly River State Park 56  
HUMAN RESOURCES 1  
Hunter Education Program 38  
Hunters Helping the Hungry 66,70

**I**

Important Bird Areas (IBA) 81  
Interagency Coordination Tool 104

**K**

Kanawha State Forest (including Forks of Coal Natural Area) 56  
Kumbrabow State Forest 57

**L**

Land Acquisition 33  
Land Licensed or Leased to DNR 34  
Law Enforcement Activity 40  
Law Enforcement Section 37  
Letter from the Director ii  
Lifetime Agent License Sales 10  
Lifetime License Sales 10  
Little Beaver State Park 57  
Loggerhead Shrike 82  
Long-eared Owl 82  
Lost River State Park 57

**M**

Map of State Parks, Forests  
and Recreation Areas vi  
Map of Wildlife Management Areas vii  
Maximum Entropy Habitat Modeling 92,93  
Mission Statement iv  
Monarch Butterfly Conservation 85  
Moncove Lake State Park 57  
Muskellunge 74,77  
Mussel Program 86

**N**

National Hunting and Fishing Days 66,70  
Natural Heritage Program 87  
North Bend Rail Trail 57  
North Bend State Park 58  
Northeastern Bulrush 92  
Northeastern Bulrush (NEBR) 92  
Northern Goshawk 82  
Northern Harrier 83  
Northern Saw-whet Owl 83

**O**

Office of Land and Streams 33  
Other Functions 33  
Officer Training 38  
Ohio River Coordination 75,78  
Olive-sided Flycatcher 83  
Options to Purchase Obtained 35  
Ornithology 79  
Osprey 83  
Other Outreach Efforts 99  
Outdoor Youth Challenge 66,70  
Outreach 64  
Overview 61

## **P**

Panther State Forest 58  
Parcels in Process of Acquisition 35  
Parks and Recreation Section 48  
Peregrine Falcon 84  
Pinnacle Rock State Park 58  
Pipestem Resort State Park 58  
Planning/Engineering/Maintenance 61  
Planning Program 100  
Prickett's Fort State Park 59  
Properties Acquired 34  
Property and Procurement 2  
Property Management 36  
Prosecution Program by District 45

## **R**

Rails and Bitterns 84  
Recreational Resources Mapping 104  
Regional, National and International  
Coordination 68  
Report of Prosecutions by Charge 40  
Reservoir Management 74  
Reservoirs 74  
Rivers and Stream Management 36\_  
Rivers, Streams and Small Impoundments 74  
River, Stream and Lake Research and Surveys 74  
Running Buffalo Clover (RBC) 89

## **S**

Sandhill Crane 84  
Seneca State Forest 59  
Shale Barren Rockcress 91  
Shale Barren Rockcress (SBRC) 91  
Small Mammals – Sideling Hill WMA 96  
Small Whorled Pogonia (SWP) 92  
Snakes – Sideling Hill WMA 95  
Spotted Turtle 94  
Statement of Disbursements 11  
State Wildlife Action Plan 99  
Stonewall Resort State Park 59  
Stream Restoration Program 100  
Stream Salamanders – Sideling Hill WMA 95  
Striped Bass 74, 77  
Substantially Complete Projects 61

## **T**

Technical Assistance 68\_99  
Technical Support Unit 100  
Timber Rattlesnake 95  
Tomlinson Run State Park 59  
Total License Sales 4  
Trophy Fish Citation Program 76  
Trout Hatcheries 73\_76  
Trout Stocking 77  
Tu-Endie-Wei State Park  
(Point Pleasant Battle Monument) 59  
Twin Falls Resort State Park 59  
Tygart Lake State Park 60

## **U**

Upland Sandpiper 84

## **V**

Valley Falls State Park 60  
Virginia Spiraea 92

## **W**

Warmwater Hatcheries 73\_77  
Warmwater Stocking 78  
Watoga State Park  
(includes Calvin Price State Forest) 60  
Watters Smith Memorial State Park 60  
West Virginia Natural Heritage  
Rare Species Database 93  
West Virginia Northern Flying Squirrel 96  
West Virginia's Archery in the Schools  
Program 65  
West Virginia Wildlife Endowment Fund 65  
White-tailed Deer 69  
Whitewater Enforcement Program 39  
Wild Boar 72\_74  
Wildlife Damage and Nuisance Activities 68\_71  
Wildlife Diversity Program 79  
Wildlife Population Surveys and Research \_68  
Wildlife Resources Section 64  
Wild Turkey 71\_74  
Winter Bird Count 84  
Wood Turtle 94  
WV Breeding Bird Atlas 2 84  
WV Butterfly Atlas 85  
WV Wetland Butterfly Grant 85







324 4th Avenue  
South Charleston, West Virginia 25303

(304) 558-2754  
Fax: (304) 558-2768