



WEST VIRGINIA
**DIVISION OF
NATURAL
RESOURCES**
ANNUAL REPORT
2015-2016







324 4th Avenue
South Charleston, West Virginia 25303

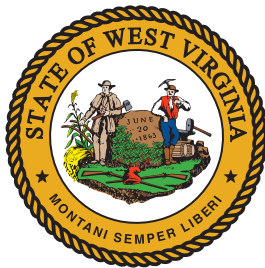
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Governor, State of West Virginia

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Secretary, Department of Commerce

Robert A. Fala
Director, Division of Natural Resources

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Chief, Law Enforcement Section

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Supervisor, Land and Streams

Natural Resources Commissioners

Jeffrey S. Bowers, *Sugar Grove*
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Byron K. Chambers, *Romney*
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Kenneth R. Wilson, *Chapmanville*

The West Virginia Division of Natural Resources Annual Report 2015-2016 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

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Earl Ray Tomblin
Governor

Robert A. Fala
Director

December 1, 2016

The Honorable Earl Ray Tomblin
Governor of West Virginia
State Capitol
1900 Kanawha Boulevard, East
Charleston, West Virginia 25305

Dear Governor Tomblin:

Transmitted herewith is the annual report for the West Virginia Division of Natural Resources for fiscal year July 1, 2015, through June 30, 2016.

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.

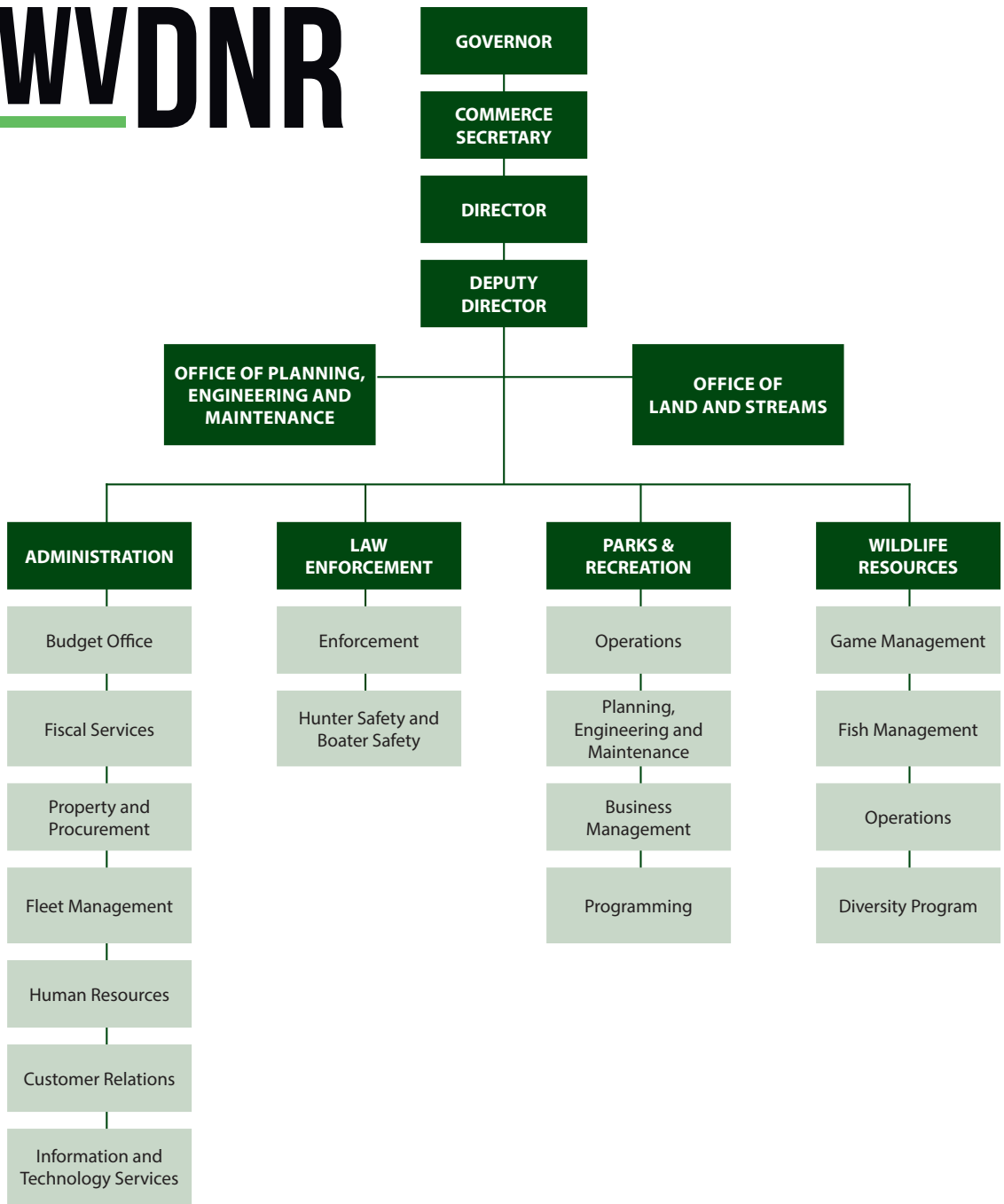
Sincerely,

A handwritten signature in blue ink that reads "BOB FALA".

Robert A. Fala
Director

RF: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.

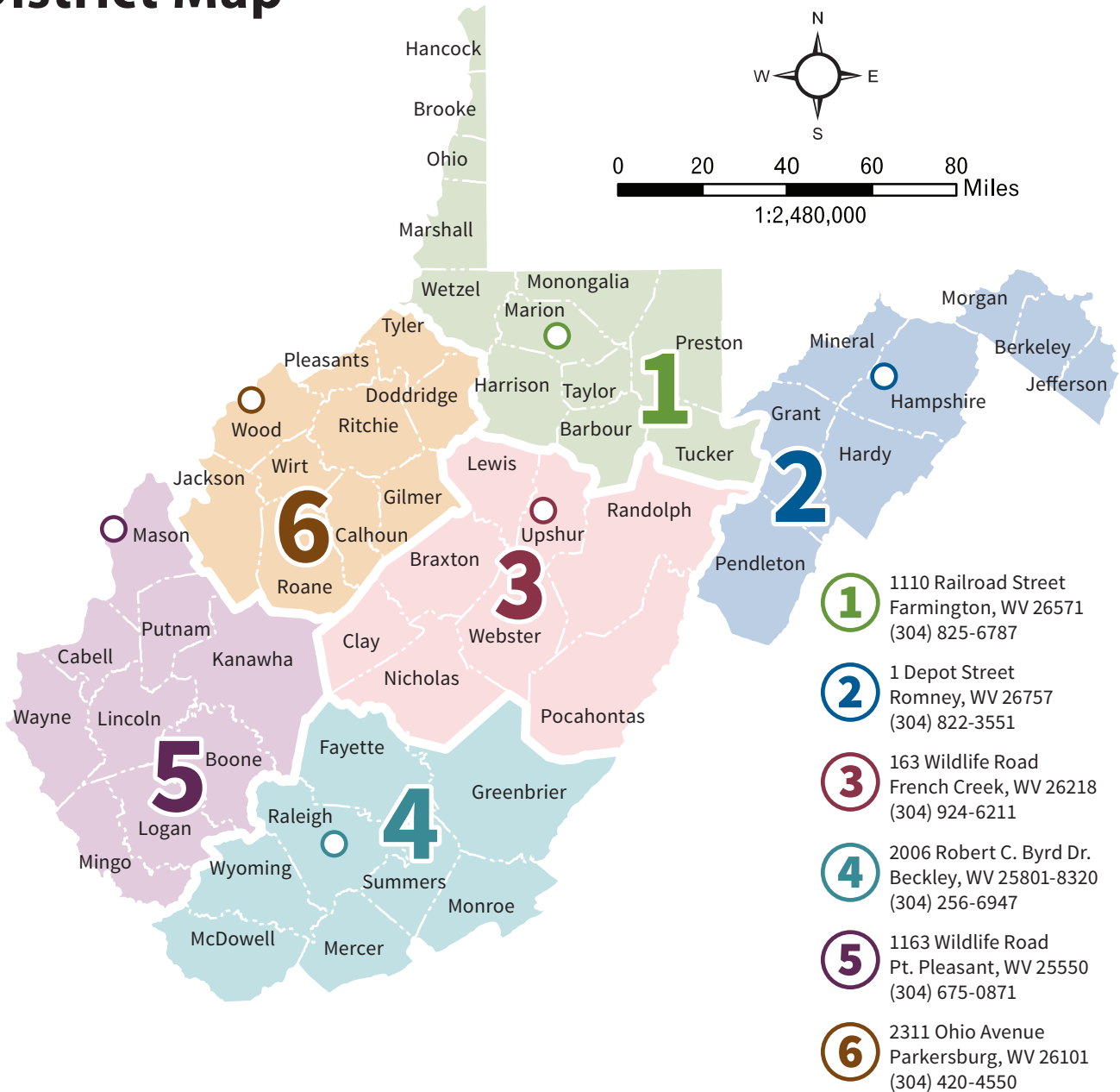
BOARDS AND COMMISSIONS ON WHICH THE DIRECTOR SERVES

- 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 Tourism Commission §5B-2-8(c)(4)
- West Virginia Outdoor Heritage Conservation Fund §5B-2G-4(a)
- National Coal Heritage Area Authority §29-27-3(b)

EEOC STATEMENT

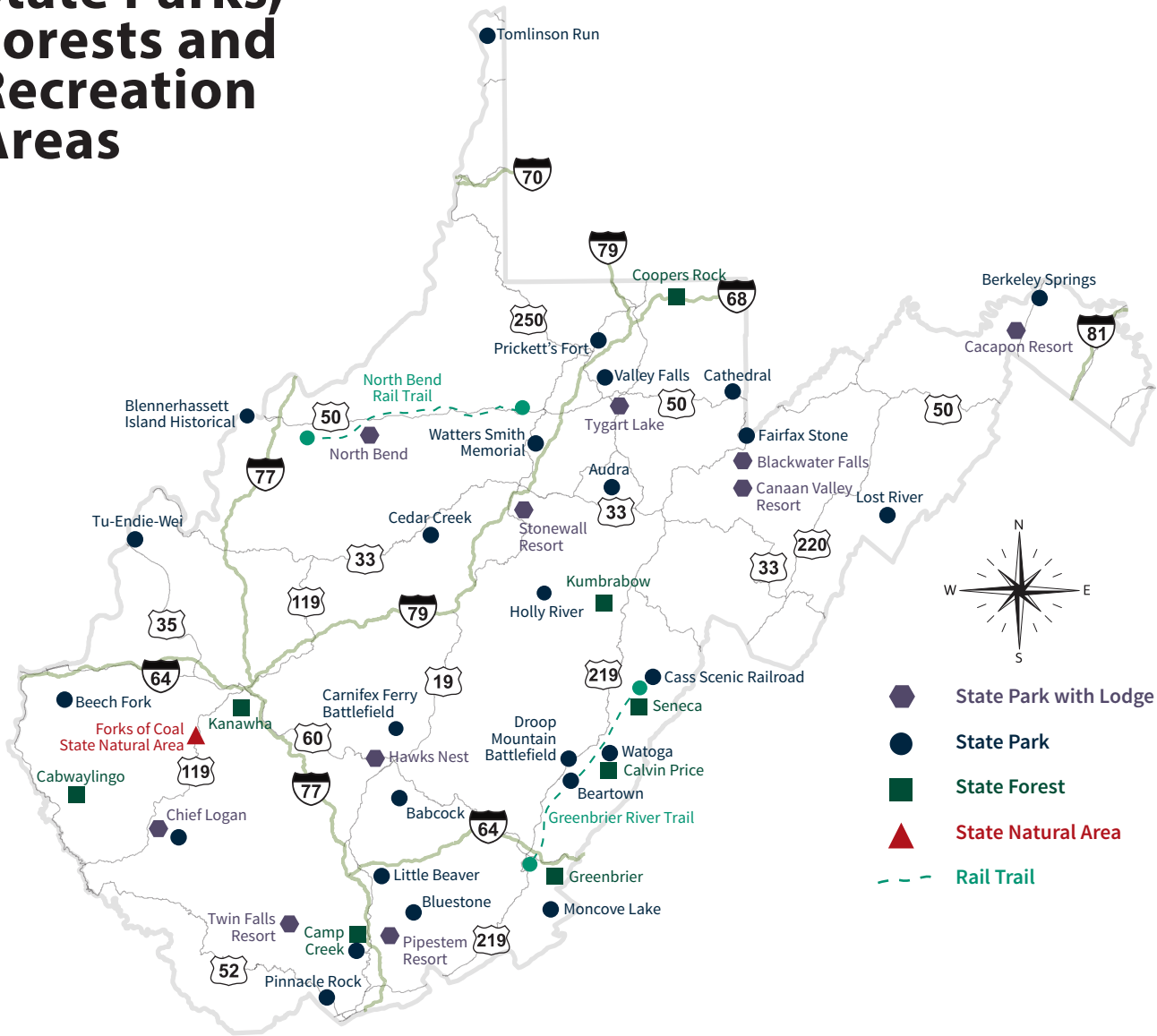
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West Virginia Division of Natural Resources District Map



West Virginia Division of Natural Resources

State Parks, Forests and Recreation Areas



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. Berwind Lake
49. Beury Mountain
50. Bluestone Lake
51. Horse Creek Lake
52. Meadow River
53. Moncove Lake
54. Panther
55. Plum Orchard Lake
56. R.D. Bailey Lake
57. Tate Lohr
58. Tug Fork

District 5

(304) 675-0871

59. Amherst/Plymouth
60. Beech Fork Lake
61. Big Ugly
62. Chief Cornstalk
63. Chief Logan
64. East Lynn Lake
65. Elk Creek
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

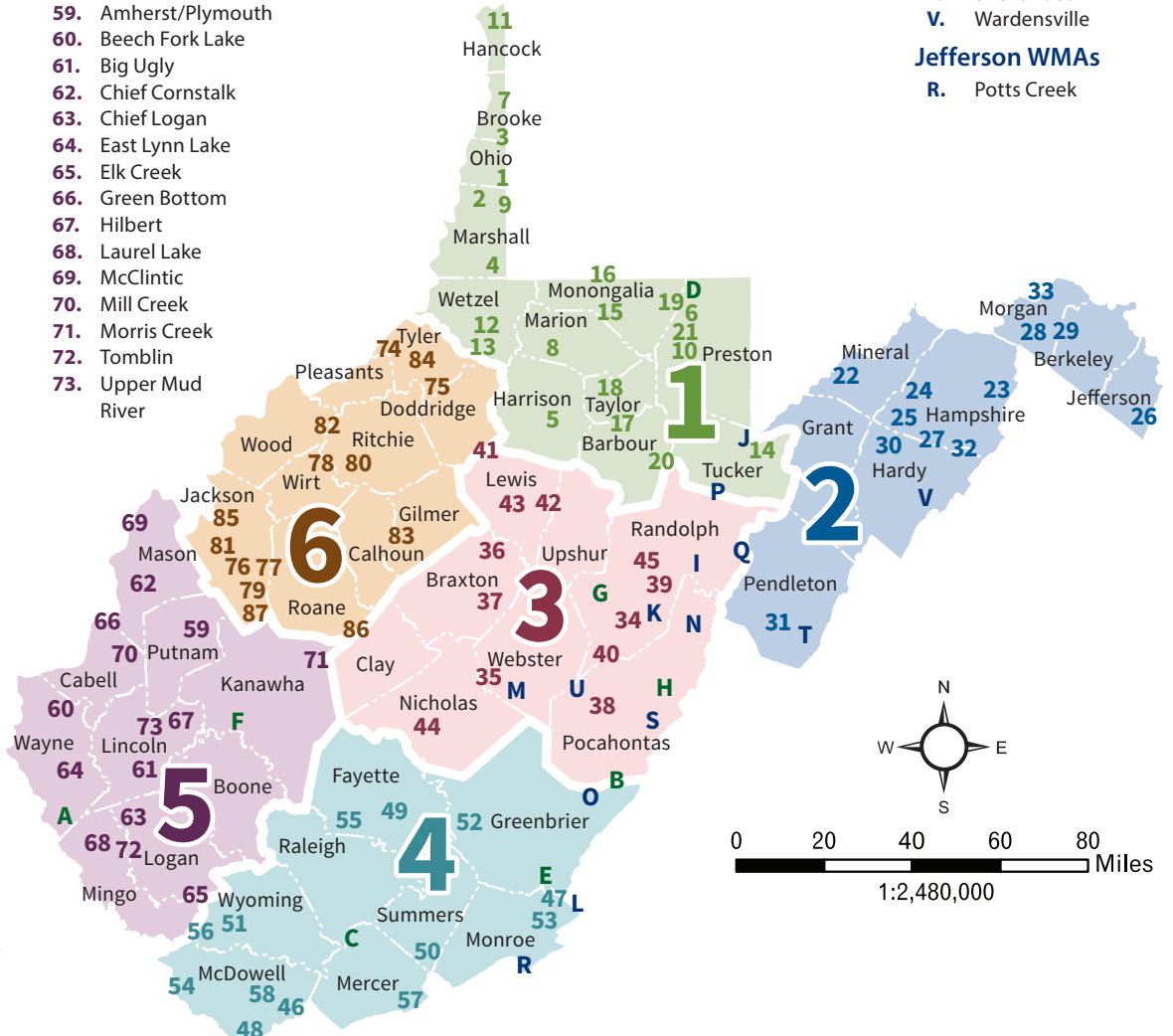


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Administration



Administration Section

Verena M. Mullins,
Chief of Administration

The administrative offices provide services to all sections and offices of the Division of Natural Resources in the areas of budgeting, accounting, investments, staffing, payroll, employee benefits, customer relations, procurement, property management and control, general services, fleet management, licensing, computer application development and maintenance, and publishing *Wonderful West Virginia* magazine.

Sectional responsibilities include developing and maintaining sound fiscal and personnel policies; coordinating purchasing procedures; maintaining active inventory and records management programs; managing a statewide radio communication system; publishing the state's premier magazine; coordinating, developing and maintaining mainframe and local network program applications; and developing administrative procedures required for the orderly correlation of divisional activities and the overall operation of the division. The services are provided by employees working in seven major branches: human resources, customer relations (including *Wonderful West Virginia* magazine), fiscal services, budget, property and procurement, business technology, and fleet management.

WONDERFUL WEST VIRGINIA MAGAZINE

Wonderful West Virginia is an official publication of the West Virginia Division of Natural Resources and is the state's premier publication. Published monthly, there were approximately 26,500 copies printed of each issue.

In FY 2016, the average number of copies mailed each month to paid individual subscribers was 23,860. In addition, some 1,456 copies were distributed each month to paid bulk subscribers such as government agencies, chambers of commerce, motels, real estate firms, gift shops in state parks, and other newsstand distributors.

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, 2016. Itemization of summarized financial data contained in this report is public and on file.

Statement of Disbursements

ADMINISTRATION SECTION

EXECUTIVE/ADMINISTRATIVE

Personal Services	\$	368,611.99
Employee Benefits		104,273.55
Current Expenses		332,703.33
Repairs & Alterations		3,404.15
Equipment		3,336.91
Fund Transfer		700,000.00
TOTAL	\$	1,512,329.93

FISCAL SERVICES

Personal Services	\$	649,575.39
Employee Benefits		238,644.71
Current Expenses		398,842.09
Repairs & Alterations		1,251.21
PEIA Transfer		15,061.58
TOTAL	\$	1,303,374.98

STAFFING/PAYROLL

Personal Services	\$	253,871.55
Employee Benefits		98,890.55
Current Expenses		22,633.08
TOTAL	\$	375,395.18

GENERAL SERVICES

Personal Services	\$	339,066.61
Employee Benefits		128,477.19
Current Expenses		277,143.39
Repairs & Alterations		61,515.47
Building Improvements		1,637.81
TOTAL	\$	807,840.47

WONDERFUL WEST VIRGINIA MAGAZINE

Personal Services	\$	35,713.29
Employee Benefits		17,398.89
Current Expenses		397,892.81
TOTAL	\$	451,004.99

General Revenue Appropriated	\$	2,373,651.50
Special Revenue Non-Appropriated		1,131,172.10
Special Revenue Appropriated		879,091.96
Federal Revenue Appropriated		66,029.99
TOTAL ADMINISTRATION	\$	4,449,945.55

LAW ENFORCEMENT SECTION

LAW ENFORCEMENT

Personal Services	\$ 5,500,224.64
Employee Benefits	2,256,892.00
Current Expenses	1,443,444.42
Repairs & Alterations	151,895.34
Equipment	1,163,759.01
PEIA Transfer	14,520.52
Medical Service Payments	3,215.00
TOTAL	\$ 10,533,950.93

General Revenue Appropriated	\$ 2,788,299.61
Special Revenue Non-Appropriated	1,846,044.75
Special Revenue Appropriated	5,016,448.00
Federal Revenue Appropriated	883,158.57
TOTAL LAW ENFORCEMENT	\$ 10,533,950.93

WILDLIFE RESOURCES SECTION

GAME MANAGEMENT

Personal Services	\$ 2,474,717.80
Employee Benefits	1,046,244.31
Current Expenses	1,586,342.95
Repairs & Alterations	291,067.87
Equipment	353,683.31
Building Improvements	8,076.38
PEIA Transfer	289.09
Consultant Pmts for Capital Asset Proj	70,493.20
Land Improvements	21,448.69
Land Purchases	563,093.00
TOTAL	\$ 6,415,456.60

CAPITAL IMPROVEMENTS

Personal Services	\$ 213,932.22
Employee Benefits	38,877.07
Current Expenses	610,190.80
Repairs & Alterations	109,888.99
Equipment	1,850.00
Building Improvements	30,056.66
Land Improvements	688,927.03
Land Purchases	560,695.00
Contractor Pmts for Capital Asset Proj	18,463.00
Consultant Pmts for Capital Asset Proj	175,781.50
TOTAL	\$ 2,448,662.27

Statement of Disbursements

COLD WATER FISH MANAGEMENT

Personal Services	\$	1,154,107.31
Employee Benefits		528,242.85
Current Expenses		1,048,658.55
Repairs & Alterations		81,820.98
Equipment		62,406.00
TOTAL	\$	2,875,235.69

WILDLIFE - ADMINISTRATION

Personal Services	\$	435,929.88
Employee Benefits		170,684.57
Current Expenses		1,660,411.64
Repairs & Alterations		5,502.18
Equipment		114,809.00
Building Improvements		4,645.59
Consultant Pmts for Capital Asset Proj		71,676.50
TOTAL	\$	2,463,659.36

WARM WATER FISH MANAGEMENT

Personal Services	\$	1,020,934.41
Employee Benefits		411,021.86
Current Expenses		652,089.85
Repairs & Alterations		58,652.57
Equipment		195,270.22
Building Improvements		88.95
Land Improvements		3,538.94
TOTAL	\$	2,341,596.80

TECHNICAL SUPPORT

Personal Services	\$	406,874.41
Employee Benefits		183,630.26
Current Expenses		240,981.25
Repairs & Alterations		98.95
TOTAL	\$	831,584.87

SPECIAL PROJECTS

Personal Services	\$	254,482.07
Employee Benefits		92,397.65
Current Expenses		177,912.08
Repairs & Alterations		3,904.49
TOTAL	\$	528,696.29

WILDLIFE DIVERSITY

Personal Services	\$	771,490.80
Employee Benefits		290,214.04
Current Expenses		553,618.17
Repairs & Alterations		(568.43)
Equipment		151,807.00
PEIA Transfer		1,386.00
TOTAL	\$	1,767,947.58

HUNTING & FISHING LICENSE UNIT

Personal Services	\$	155,532.93
Employee Benefits		59,390.44
Current Expenses		237,327.62
TOTAL	\$	452,250.99

ELKINS OPERATIONS CENTER

Personal Services	\$	115,455.59
Employee Benefits		65,733.72
Current Expenses		147,754.97
Repairs & Alterations		35,691.04
TOTAL	\$	364,635.32

WEST VIRGINIA WILDLIFE CENTER

Personal Services	\$	220,494.53
Employee Benefits		69,246.27
Current Expenses		72,413.00
Repairs & Alterations		15,145.01
Building Improvements		168.00
TOTAL	\$	377,466.81

General Revenue Appropriated	\$	160,511.98
Special Revenue Non-Appropriated		5,677,351.62
Special Revenue Appropriated		7,001,826.95
Federal Revenue Appropriated		8,027,502.03
TOTAL WILDLIFE RESOURCES	\$	20,867,192.58

PARKS & RECREATION SECTION

PARKS & RECREATION

Personal Services	\$ 17,496,995.10
Employee Benefits	6,464,428.63
Current Expenses	13,559,156.51
Repairs & Alterations	2,127,125.16
Equipment	2,136,930.32
PEIA Transfer	92,891.02
Land Purchases	110,000.00
Contractor Pmts for Capital Asset Proj	2,768,512.84
Consultant Pmts for Capital Asset Proj	453,847.56
TOTAL	\$ 45,209,887.14

General Revenue Appropriated	\$ 14,145,615.91
Special Revenue Non-Appropriated	21,405,886.08
Special Revenue Appropriated	9,658,385.15
Federal Revenue Appropriated	0.00
TOTAL PARKS & RECREATION	\$ 45,209,887.14

SPECIAL PROGRAMS & SERVICES SECTION

OFFICE OF LAND & STREAMS

Personal Services	\$ 227,243.93
Employee Benefits	76,914.63
Current Expenses	231,223.03
Repairs & Alterations	7,445.06
Equipment	58,760.00
PEIA Transfer	1,038.79
Consultant Pmts for Capital Asset Proj	18,750.00
Land Purchases	50,500.00
TOTAL	\$ 671,875.44

Special Revenue Non-Appropriated	\$ 83,046.56
Special Revenue Appropriated	588,828.88
TOTAL SPECIAL PROGRAMS & SERVICES	\$ 671,875.44

Grand Total General Revenue Appropriated	\$ 19,468,079.00
Grand Total Special Revenue Non-Appropriated	30,143,501.11
Grand Total Special Revenue Appropriated	23,144,580.94
Grand Total Federal Revenue Appropriated	8,976,690.59

GRAND TOTAL DISBURSEMENTS **\$ 81,732,851.64**

Statement of Revenues/Disbursements

COMBINING STATEMENT OF REVENUES, DISBURSEMENTS AND CHANGES IN CASH BALANCES FISCAL YEAR 2015-2016

APPROPRIATED FUNDS

GENERAL FUND (0265)

Appropriated Fund - No Cash Balance

DISBURSEMENTS

Personal Services	(12,700,971.81)	
Employee Benefits	(4,634,974.64)	
Current Expense	(444,704.64)	
Repairs and Alterations	(15,603.44)	
Equipment	(495,790.73)	
Contractor Pmts for Capital Asset Proj	(427,166.08)	
Consultant Pmts for Capital Asset Proj	(18,515.35)	
PEIA Reserve Transfer	(104,351.10)	
WV OPEB Contribution	(626,001.21)	
TOTAL DISBURSEMENTS		(19,468,079.00)

SPECIAL REVENUE LICENSE FUND (3200)

Cash Balance July 1, 2015	1,224,353.87
Investment Balance July 1, 2015	7,367,983.89
Beginning Fund Balance	8,592,337.76

RECEIPTS

Animal Replacement Costs	53,493.60	
Contract Reimbursement	24,808.66	
Hunting & Fishing Licenses and Stamps	12,095,754.50	
Investment Earnings	21,079.49	
Lifetime Senior Licenses	5,359.00	
Miscellaneous Permits and License	6,466.04	
Miscellaneous Collections	8,147.19	
Surplus Property Sale	13,765.00	
TOTAL RECEIPTS		12,228,873.48

DISBURSEMENTS

Personal Services	(4,951,013.45)	
Employee Benefits	(1,861,948.66)	
Current Expense	(3,254,243.12)	
Repairs and Alterations	(434,906.23)	
Equipment	(116,549.13)	
Medical Service Payments	(3,215.00)	
Building Improvements	(1,637.81)	
Land Improvements	(3,538.94)	
Bank Costs	(685.04)	
2016 Capital Improvements	(1,255,366.49)	
WV OPEB Contribution	(225,745.95)	
LESS TOTAL DISBURSEMENTS		(12,108,849.82)

Ending Fund Balance	8,712,361.42
Less - Investment Balance June 30, 2016	(7,855,082.38)
CASH BALANCE JUNE 30, 2016	857,279.04

Statement of Revenues/Disbursements

GAME, FISH AND AQUATIC LIFE FUND (3202)

Cash Balance July 1, 2015		38,669.37
Investment Balance July 1, 2015		583,283.99
Beginning Fund Balance		621,953.36
RECEIPTS		
Fish Kill Reimbursement	40,960.59	
Donation	500.00	
Investment Earnings	1,598.13	
PLUS TOTAL RECEIPTS		43,058.72
DISBURSEMENTS		
Current Expense	(91,506.24)	
LESS TOTAL DISBURSEMENTS		(91,506.24)
Ending Fund Balance		573,505.84
Less - Investment Balance June 30, 2016		(534,882.12)
CASH BALANCE JUNE 30, 2016		38,623.72

WILDLIFE DIVERSITY FUND (3203)

Cash Balance July 1, 2015		126,160.33
Investment Balance July 1, 2015		708,723.79
Beginning Fund Balance		834,884.12
RECEIPTS		
Investment Earnings	2,381.03	
Miscellaneous Collections	20.40	
Sale of Booklets	561.20	
Sale of Wildlife Calendars	89,222.91	
Sale of Wildlife License Plates	339,990.68	
Special Events	4,747.29	
Wildlife Cooperative Agreements	2,974.81	
PLUS TOTAL RECEIPTS		439,898.32
DISBURSEMENTS		
Personal Services	(110,383.15)	
Employee Benefits	(28,769.10)	
Current Expense	(17,942.34)	
Equipment	(125,326.00)	
Bank Costs	(924.49)	
WV OPEB Contribution	(2,858.74)	
LESS TOTAL DISBURSEMENTS		(286,203.82)
Ending Fund Balance		988,578.62
Less - Investment Balance June 30, 2016		(906,104.82)
CASH BALANCE JUNE 30, 2016		82,473.80

USE & DEVELOPMENT FUND - PUBLIC LAND CORPORATION (3205)

Cash Balance July 1, 2015		5,813,138.26
RECEIPTS		
Channel Changes	2,000.00	
Docking Facilities	11,900.00	
Gas & Oil Leases	8,204.89	
Low Water Fords	23,600.00	
Low Water Level Bridges	176,600.00	

Miscellaneous Collections	464.48	
Permits	77,600.00	
Pipeline Permits	449,884.38	
Right of Way	98,900.00	
Sand/Gravel ATE Management	5,100.00	
Sand and Gravel Royalties	24,816.30	
Stream Restoration	14,700.00	
Structures	305,395.10	
Subterranean Cable Permit Renewal	6,750.00	
Water Intake Supply System	6,700.00	
PLUS TOTAL RECEIPTS		1,212,615.15
DISBURSEMENTS		
Personal Services	(75,139.18)	
Employee Benefits	(20,824.44)	
Current Expense	(223,512.40)	
Repairs and Alterations	(7,445.06)	
Equipment	(58,760.00)	
PEIA Reserve Transfer	(509.83)	
Bank Costs	(2,520.03)	
WV OPEB Contribution	(1,324.18)	
Consultant Pmts for Capital Asset Proj	(18,750.00)	
Land Purchases	(50,500.00)	
LESS TOTAL DISBURSEMENTS		(459,285.12)
CASH BALANCE JUNE 30, 2016		6,566,468.29

WHITewater STUDY AND IMPROVEMENT FUND (3253)

Cash Balance July 1, 2015		9,419.11
Investment Balance July 1, 2015		38,210.47
Beginning Fund Balance		47,629.58
RECEIPTS		
Investment Earnings	175.20	
Miscellaneous Collections	12,277.30	
Study and Improvement Fees	35,374.75	
Whitewater Stocking Study Fee-Gauley River	6,676.25	
PLUS TOTAL RECEIPTS		54,503.50
DISBURSEMENTS		
Personal Services	(8,567.93)	
Employee Benefits	(3,378.24)	
Current Expense	(824.75)	
LESS TOTAL DISBURSEMENTS		(12,770.92)
Ending Fund Balance		89,362.16
Less - Investment Balance June 30, 2016		(66,385.67)
CASH BALANCE JUNE 30, 2016		22,976.49

Statement of Revenues/Disbursements

DIVISION OF NATURAL RESOURCES LOTTERY FUND (3267)

Cash Balance July 1, 2015		2,538,280.02
RECEIPTS		
Lottery Transfers	3,188,852.00	
Miscellaneous Collections	240.58	
Surplus Property Sale	972.50	
PLUS TOTAL RECEIPTS		3,190,065.08
DISBURSEMENTS		
Personal Services	(1,590,978.85)	
Employee Benefits	(527,634.20)	
Current Expense	(973,284.91)	
Repairs and Alterations	1,188.93	
Equipment	(71,612.82)	
PEIA Reserve Transfer	(12,310.34)	
Contractor Pmts for Capital Asset Proj	(332,389.12)	
Consultant Pmts for Capital Asset Proj	(59,407.46)	
Land Purchases	(110,000.00)	
WV OPEB Contribution	(74,555.49)	
LESS TOTAL DISBURSEMENTS		(3,750,984.26)
CASH BALANCE JUNE 30, 2016		1,977,360.84

STATE PARK IMPROVEMENT FUND (3277)

Cash Balance July 1, 2015		11,639,564.80
Beginning Fund Balance		
RECEIPTS		
Lottery Transfers	5,000,000.00	
Insurance Payment Island Belle Damage	45,595.50	
Disaster Reimbursement	242,736.37	
Surplus Property Sale	9,893.00	
PLUS TOTAL RECEIPTS		5,298,224.87
DISBURSEMENTS		
Current Expense	(738,640.36)	
Repairs and Alterations	(2,029,427.74)	
Equipment	(2,067,015.76)	
Contractor Pmts for Capital Asset Proj	(1,406,547.30)	
Consultant Pmts for Capital Asset Proj	(234,337.40)	
LESS TOTAL DISBURSEMENTS		(6,475,968.56)
CASH BALANCE JUNE 30, 2016		10,461,821.11

CONSOLIDATED FEDERAL FUND (8707)

Cash Balance July 1, 2015		1,371,439.53
Investment Balance July 1, 2015		7,195,461.11
Beginning Fund Balance		8,566,900.64
RECEIPTS		
Law Enforcement		
Boating Safety	301,971.00	
Duplicate Boat Safety Cards	470.00	
Hunter Safety Replacement Cards	20,270.00	

Hunter Safety	489,332.40	
Port Security Grant	142,479.00	954,522.40
Wildlife Resources		
Acid Water Studies	185,748.48	
Archery Education in Schools	23,828.11	
Avian Flu Study Grant	10,000.00	
Biometrics	249,439.02	
Boating Access Administration	561,088.25	
Boating Access Grant	2,607.04	
Commercial Navigable Rivers	31,173.27	
District Wildlife Management	2,139,675.80	
Endangered Species	94,615.36	
Environmental Data Collection	49,269.00	
Fish & Wildlife Coordination	210,923.70	
Fish Habitat Enhancement Program	2,009.06	
Fish Research Database	1,286.04	
Interagency Coordination	258,396.36	
Investment Earnings	23,440.06	
Miscellaneous	89,301.44	
Reservoir Investigations	51,854.15	
Rivers and Streams Assessment	70,514.33	
Small Impoundment Assessment	66,133.84	
State Wildlife Grant	1,467,234.28	
Surplus Property Sale	4,087.50	
Trout Hatchery Operations	2,009,028.82	
USDP AG NRCS Wildlife Hbt Inc	24,023.13	
Warmwater Fish Hatcheries Grant	310,678.06	
Wetlands Development Grant	115,586.71	
Wildlife Research	930,803.41	8,982,745.22
Parks		
Cass Club House National Park Service	0.00	0.00
PLUS TOTAL RECEIPTS		9,937,267.62
DISBURSEMENTS		
Personal Services	(3,239,994.21)	
Employee Benefits	(1,177,804.26)	
Current Expense	(3,699,652.81)	
Repairs and Alterations	(124,941.62)	
Equipment	(546,460.50)	
Consultant Pmts for Capital Asset Proj	(57,000.00)	
WV OPEB Contribution	(130,837.19)	
LESS TOTAL DISBURSEMENTS		(8,976,690.59)
Ending Fund Balance		9,527,477.67
Less - Investment Balance June 30, 2016		(8,565,901.17)
CASH BALANCE JUNE 30, 2016		961,576.50

Statement of Revenues/Disbursements

NON-APPROPRIATED FUNDS

LAW ENFORCEMENT PROGRAM FUND (3204)

Cash Balance July 1, 2015	300,095.35
Investment Balance July 1, 2015	4,176,001.97
Beginning Fund Balance	4,476,097.32

RECEIPTS

Boating Under Influence Grant	8,787.03	
Forfeiture	3,712.50	
Ginsing Confiscation	30,820.00	
Hatfield McCoy Trail Patrol Reimbursement	168,125.01	
Equipment Reimbursement	65,309.80	
Insurance Payment Adjustment	(476.23)	
Investment Earnings	12,162.94	
License Reinstatement Fee	2,200.00	
Miscellaneous Collections	6,629.30	
Miscellaneous Permits	3,900.00	
Motorboat Licenses	67,440.50	
Retirement Contributions	9,344.03	
Sale Confiscated Goods	691.55	
Surplus Property Sale	2,400.00	
Tipping Fees	540,060.95	
Whitewater Rafting Licenses	31,500.00	
PLUS TOTAL RECEIPTS		952,607.38

DISBURSEMENTS

Personal Services	(458,159.92)	
Employee Benefits	(169,262.31)	
Current Expense	(63,923.45)	
Repairs and Alterations	(2,932.57)	
Equipment	(601,393.20)	
WV OPEB Contribution	(21,214.86)	
LESS TOTAL DISBURSEMENTS		(1,316,886.31)
Ending Fund Balance		4,111,818.39
Less - Investment Balance June 30, 2016		(3,908,164.92)
CASH BALANCE JUNE 30, 2016		203,653.47

LAW ENFORCEMENT CONTRACTS (3208)

Cash Balance July 1, 2015	11,758.53
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RECEIPTS

Hinton Boat Race Patrol	0.00	
PLUS TOTAL RECEIPTS		0.00

DISBURSEMENTS

Current Expense	0.00	
LESS TOTAL DISBURSEMENTS		0.00

CASH BALANCE JUNE 30, 2016		11,758.53
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WILDLIFE ENDOWMENT FUND (3224)

Cash Balance July 1, 2015	12,684.50
Investment Balance July 1, 2015	55,116,757.73
Beginning Fund Balance	55,129,442.23

RECEIPTS

Investment Earnings	(709,467.80)	
Lifetime Hunting & Fishing License	643,187.00	
PLUS TOTAL RECEIPTS		(66,280.80)
DISBURSEMENTS		
Fund Transfer	(700,000.00)	
LESS TOTAL DISBURSEMENTS		(700,000.00)
Ending Fund Balance		54,363,161.43
Less - Investment Balance June 30, 2016		(54,342,834.95)
CASH BALANCE JUNE 30, 2016		20,326.48

WILDLIFE RESOURCES-RECREATION FUND (3227)

Cash Balance July 1, 2015	544,021.25
Investment Balance July 1, 2015	24,361,919.69
Beginning Fund Balance	24,905,940.94

RECEIPTS

Acid Impacted Stream Studies	1,724.04
Campsite Rentals	12,427.40
Coal Royalties	110,705.82
Donation for Stream Treatment with Limestone	12,961.71
Entrance Fees	75,427.63
Fish Promotion and Research	111,390.87
Gas Royalties	569,127.58
Gift Shop Sales	7,518.64
Gifts & Bequests	32,431.08
Gifts, Grants & Donations	3,080.00
Go-Wild Hunting & Fishing License Issuance Fee	218,428.00
Habitat Land Inquiries	10,900.00
Hunters Helping the Hungry	34,444.00
Information Retrieval	25,810.00
Insurance Payments	4,252.18
Investment Earnings	69,212.33
Leases	3,500.00
Miscellaneous Collections	12,215.43
Mitigation Wildlife	40,485.00
Oil Royalties	8,603.13
Outdoor Heritage Conservation Fund Transfer	1,200,000.00
Picnic Shelter Fees	1,750.06
Real Estate License Fees	90,769.29
Residence Rentals	1,250.00
Rocky Mountain Elk Foundation Donation	50,000.00
Royalty Payment Adjustment	(20,000.00)
Scientific Collection Permit	42,770.00
Surface Damages	2,498.70
Timber Sales	539,355.59
Transfer From Wildlife Endowment Fund	700,000.00
Trophy Fish Citations	2,960.00
Wildlife Cooperative Agreements	41,740.00
Wildlife Special Events	23,235.94

Statement of Revenues/Disbursements

PLUS TOTAL RECEIPTS		4,040,974.42
DISBURSEMENTS		
Personal Services	(618,581.49)	
Employee Benefits	(186,513.30)	
Current Expense	(791,177.01)	
Repairs and Alterations	(132,942.77)	
Equipment	(268,383.00)	
Bank Costs	(132,010.93)	
Consultant Pmts for Capital Asset Proj	(142,169.70)	
Land Improvements	(21,448.69)	
Land Purchases	(563,093.00)	
Building Improvements	(12,853.91)	
WV OPEB Contribution	(21,994.68)	
LESS TOTAL DISBURSEMENTS		(2,891,168.48)
Ending Fund Balance		26,055,746.88
Less - Investment Balance June 30, 2016		(25,577,019.82)
CASH BALANCE JUNE 30, 2016		478,727.06

BEAR DAMAGE FUND (3228)

Cash Balance July 1, 2015		64,750.86
Investment Balance July 1, 2015		190,722.82
Beginning Fund Balance		255,473.68
RECEIPTS		
Bear Damage Stamps	261,580.00	
Investment Earnings	773.60	
PLUS TOTAL RECEIPTS		262,353.60
DISBURSEMENTS		
Current Expense	(12,044.15)	
Payment of Claims	(180,797.62)	
LESS TOTAL DISBURSEMENTS		(192,841.77)
Ending Fund Balance		324,985.51
Less - Investment Balance June 30, 2016		(291,496.42)
CASH BALANCE JUNE 30, 2016		33,489.09

WILDLIFE RESOURCES CONTRACTS FUND (3229)

Cash Balance July 1, 2015		36,746.68
Investment Balance July 1, 2015		771,332.66
Beginning Fund Balance		808,079.34
RECEIPTS		
Investment Earnings	1,865.14	
PLUS TOTAL RECEIPTS		1,865.14
DISBURSEMENTS		
Current Expense	(60,442.13)	
Equipment	(14,116.00)	
LESS TOTAL DISBURSEMENTS		(74,558.13)
Ending Fund Balance		735,386.35
Less - Investment Balance June 30, 2016		(637,197.80)
CASH BALANCE JUNE 30, 2016		98,188.55

MIGRATORY WATERFOWL STAMP FUND (3231)

Cash Balance July 1, 2015	2,894.61
Investment Balance July 1, 2015	39,374.63
Beginning Fund Balance	42,269.24
RECEIPTS	
Investment Earnings	97.33
PLUS TOTAL RECEIPTS	97.33
DISBURSEMENTS	
Current Expense	(12,797.27)
LESS TOTAL DISBURSEMENTS	(12,797.27)
Ending Fund Balance	29,569.30
Less - Investment Balance June 30, 2016	(29,471.96)
CASH BALANCE JUNE 30, 2016	97.34

CONSERVATION STAMP FUND (3232)

Cash Balance July 1, 2015	279,142.54
Investment Balance July 1, 2015	2,695,775.06
Beginning Fund Balance	2,974,917.60
RECEIPTS	
Conservation Stamp Sales	1,393,242.00
Investment Earnings	8,367.86
Land Access Purchase by DOH	54,600.00
Transfer In for Man Lift	25,000.00
PLUS TOTAL RECEIPTS	1,481,209.86
DISBURSEMENTS	
Personal Services	(109,417.60)
Employee Benefits	(9,800.41)
Current Expense	(221,653.96)
Repairs and Alterations	(4,433.60)
Land Purchases	(560,695.00)
LESS TOTAL DISBURSEMENTS	(906,000.57)
Ending Fund Balance	3,550,126.89
Less - Investment Balance June 30, 2016	(3,444,142.92)
CASH BALANCE JUNE 30, 2016	105,983.97

Statement of Revenues/Disbursements

TROUT STAMP FUND (3233)

Cash Balance July 1, 2015		140,999.72
Investment Balance July 1, 2015		1,444,851.44
Beginning Fund Balance		1,585,851.16
RECEIPTS		
Investment Earnings	2,857.29	
Trout Stamp Sales	1,210,259.00	
PLUS TOTAL RECEIPTS		1,213,116.29
DISBURSEMENTS		
Personal Services	(1,050,738.46)	
Employee Benefits	(441,345.36)	
Current Expense	(7,893.05)	
WV OPEB Contribution	(59,020.73)	
LESS TOTAL DISBURSEMENTS		(1,558,997.60)
Ending Fund Balance		1,239,969.85
Less - Investment Balance June 30, 2016		(1,189,708.73)
CASH BALANCE JUNE 30, 2016		50,261.12

GIFTS, GRANTS & BEQUESTS (3237)

Cash Balance July 1, 2015		52,614.49
RECEIPTS		
Special Events	49,170.00	
PLUS TOTAL RECEIPTS		49,170.00
DISBURSEMENTS		
Current Expense	(45,709.69)	
LESS TOTAL DISBURSEMENTS		(45,709.69)
CASH BALANCE JUNE 30, 2016		56,074.80

LAND MINERALS AND SPECIAL PROJECTS (3239)

Cash Balance July 1, 2015		245,166.26
RECEIPTS		
Land Leases	22,687.54	
Miscellaneous Collections	1,000.00	
Real Estate Taxes	1,160.68	
Rental Leases	1,200.00	
Right-of-Way	23,115.00	
PLUS TOTAL RECEIPTS		49,163.22
DISBURSEMENTS		
Personal Services	(54,784.58)	
Employee Benefits	(19,030.46)	
Current Expense	(434.40)	
WV OPEB Contribution	(3,911.96)	
Remittance of Taxes	(4,356.20)	
PEIA Reserve Transfer	(528.96)	
LESS TOTAL DISBURSEMENTS		(83,046.56)
CASH BALANCE JUNE 30, 2016		211,282.92

PAYROLL CLEARING ACCOUNT (3245)

Cash Balance July 1, 2015		3,775.10
RECEIPTS		
Miscellaneous Collections	3,325.60	
PLUS TOTAL RECEIPTS		3,325.60
DISBURSEMENTS		
Employee Benefits	(649.60)	
LESS TOTAL DISBURSEMENTS		(649.60)
CASH BALANCE JUNE 30, 2016		6,451.10

LAW ENFORCEMENT AND SPORTS EDUCATION STAMPS (3247)

Cash Balance July 1, 2015		89,699.97
Investment Balance July 1, 2015		414,195.91
Beginning Fund Balance		503,895.88
RECEIPTS		
Law Enforcement / Sports Ed. Stamps	379,212.00	
Investment Earnings	1,129.76	
PLUS TOTAL RECEIPTS		380,341.76
DISBURSEMENTS		
Personal Services	(323,229.71)	
Employee Benefits	(112,532.12)	
Current Expense	(1,520.40)	
WV OPEB Contribution	(11,434.96)	
LESS TOTAL DISBURSEMENTS		(448,717.19)
Ending Fund Balance		435,520.45
Less - Investment Balance June 30, 2016		(395,325.67)
CASH BALANCE JUNE 30, 2016		40,194.78

MAGAZINE SALES & SUBSCRIPTIONS (3248)

Cash Balance July 1, 2015		28,616.13
Investment Balance July 1, 2015		456,258.30
Beginning Fund Balance		484,874.43
RECEIPTS		
Investment Earnings	1,464.34	
Magazine Sponsorship	38,670.00	
Magazine Bookshelf Sales	3,452.92	
Magazine Sales	30,762.43	
Magazine Subscriptions	410,685.50	
PLUS TOTAL RECEIPTS		485,035.19
DISBURSEMENTS		
Current Expense	(387,553.92)	
Bank Costs	(2,538.89)	
LESS TOTAL DISBURSEMENTS		(390,092.81)
Ending Fund Balance		579,816.81
Less - Investment Balance June 30, 2016		(534,722.64)
CASH BALANCE JUNE 30, 2016		45,094.17

Statement of Revenues/Disbursements

CLEARING ACCOUNT-EQUIPMENT (3251)

Cash Balance July 1, 2015		226,758.66
RECEIPTS		
Gifts, Grants & Bequests	46,339.90	
Refund	4,942.15	
PLUS TOTAL RECEIPTS		51,282.05
DISBURSEMENTS		
Current Expense	5,280.00	
LESS TOTAL DISBURSEMENTS		5,280.00
CASH BALANCE JUNE 30, 2016		283,320.71

CLASS A-1 SMALL ARMS HUNTING LICENSE (3259)

Cash Balance July 1, 2015		40,657.00
Investment Balance July 1, 2015		646,358.67
Beginning Fund Balance		687,015.67
RECEIPTS		
Class A-1 Small Arms Hunting License	61,765.00	
Lifetime Small Arms Hunting License	2,175.00	
Investment Earnings	1,917.17	
PLUS TOTAL RECEIPTS		74,931.35
DISBURSEMENTS		
Equipment	(80,428.53)	
LESS TOTAL DISBURSEMENTS		(80,428.53)
Ending Fund Balance		672,444.31
Less - Investment Balance June 30, 2016		(628,275.84)
CASH BALANCE JUNE 30, 2016		44,168.47

PARKS IMPROVEMENT TO FACILITIES (3260)

Cash Balance July 1, 2015		0.00
RECEIPTS		
Interagency Federal Payments	0.00	
PLUS TOTAL RECEIPTS		0.00
DISBURSEMENTS		
Current Expense	0.00	
LESS TOTAL DISBURSEMENTS		0.00
CASH BALANCE JUNE 30, 2016		0.00

WATTERS SMITH MEMORIAL STATE PARK (3261)

Cash Balance July 1, 2015		26,882.57
Investment Balance July 1, 2015		261,013.16
Beginning Fund Balance		287,895.73
RECEIPTS		
Gas Royalties	270,569.82	
Investment Earnings	1,166.12	
Oil & Gas Lease	538.98	
PLUS TOTAL RECEIPTS		272,274.92
DISBURSEMENTS		
Equipment	(18,418.80)	
LESS TOTAL DISBURSEMENTS		(18,418.80)

Ending Fund Balance	541,751.85
Less - Investment Balance June 30, 2016	(475,779.28)
CASH BALANCE JUNE 30, 2016	65,972.57

DECOY ANIMALS ASSESSMENT FEE (3264)

Cash Balance July 1, 2015	1,000.00
Investment Balance July 1, 2015	7,570.05
Beginning Fund Balance	8,570.05
RECEIPTS	
Decoy Animal Assessment Fee	0.00
Investment Earnings	21.59
PLUS TOTAL RECEIPTS	21.59
DISBURSEMENTS	
Current Expense	0.00
LESS TOTAL DISBURSEMENTS	0.00
Ending Fund Balance	8,591.64
Less - Investment Balance June 30, 2016	(7,591.64)
CASH BALANCE JUNE 30, 2016	1,000.00

STATE PARK OPERATING FUND (3265)

Cash Balance July 1, 2015	1,531,087.37
Investment Balance July 1, 2015	8,055,446.30
Beginning Fund Balance	9,586,533.67
RECEIPTS	
Bath / Massages	391,428.51
Bicycle Rental	3,355.73
Boat Charters	9,878.39
Boat Rental	87,295.93
Cabin Advance Reservation	3,083,048.10
Cabin Rentals	2,115,281.99
Campsite Advance Reservation	691,752.92
Campsite Rentals	1,368,858.53
Coin Laundry Machines	6,100.29
Consumers Sales Tax	(10,108.03)
Cot & Crib Rental	23,998.77
Disaster Reimbursement	138,925.74
Driving Range	16,122.43
Entrance Fees	310,440.89
Equipment Rental	6,353.18
Facility Use Rental	100,098.14
Firewood Sales	147,503.25
Food & Snacks	247,976.80
Games	10,418.32
Gas Royalties	939,149.63
Gift Cards	29,460.97
Gift Shop Sales	1,997,314.85
Greens Fees	621,312.86
Group Camps	33,083.05
Hotel Occupancy Tax	555,190.62

Statement of Revenues/Disbursements

Insurance Payments	52,783.01	
Investment Earnings	23,251.90	
Lodge Advance Reservation	2,525,989.12	
Lodge Rooms	2,965,644.34	
Lottery Collections - Net	6,604.00	
Miniature Golf	29,033.93	
Miscellaneous Collections	185,537.29	
Miscellaneous Non-Taxable	(69,600.18)	
Miscellaneous Taxable	50.00	
Picnic Shelter Fees	238,692.92	
Pro Shop	151,586.78	
Purchasing Card Rebate	648,293.78	
Residence Rentals	14,077.70	
Restaurants	1,496,410.20	
Roman Bath	159,072.55	
Shooting Ranges	24,894.00	
Sled Rental	73,336.85	
Special Events	54,495.28	
Surface Damage Payment	71,329.28	
Surplus Property Sale	13,500.50	
Swimming Fees	429,521.44	
Tram	139,046.42	
Vending Machines	33,710.11	22,191,503.08
RECEIPTS - CONCESSIONS		
Boat Dock Concession	38,635.87	
Coin Machine Concession	11,257.77	
Food and Snacks Concession	39,188.67	
Golf Carts	216,339.07	
Marina	6,141.32	
Miscellaneous Concession	198,611.30	
Restaurant Concession	76,684.54	
Riding Stable	13,277.10	600,135.64
PLUS TOTAL RECEIPTS		22,791,638.72
DISBURSEMENTS		
Personal Services	(6,613,764.12)	
Employee Benefits	(1,613,099.23)	
Current Expense	(11,396,089.83)	
Repairs and Alterations	(22,304.31)	
Equipment	(11,403.52)	
Remittance Of Taxes	(599,345.97)	
Grants and Awards	(8,000.00)	
Bank Costs	(305,930.04)	
PEIA Reserve Transfer	(7,486.77)	
Consultant Pmts for Capital Asset Proj	(123,168.55)	
WV OPEB Contribution	(83,752.55)	
LESS TOTAL DISBURSEMENTS		(20,784,344.89)
Ending Fund Balance		11,593,827.50
Less - Investment Balance June 30, 2016		(9,672,946.57)
CASH BALANCE JUNE 30, 2016		1,920,880.93

CANAAN MAINTENANCE FUND (3274)

Cash Balance July 1, 2015		18,597.86
RECEIPTS		
Maintenance Transfer from Operating Fund	0.00	
PLUS TOTAL RECEIPTS		0.00
DISBURSEMENTS		
Current Expense	0.00	
LESS TOTAL DISBURSEMENTS		0.00
CASH BALANCE JUNE 30, 2016		18,597.86

COYOTE MANAGEMENT FUND (3292)

Cash Balance July 1, 2015		612.68
Investment Balance July 1, 2015		5,914.75
Beginning Fund Balance		6,527.43
RECEIPTS		
Coyote Management Donations	1,563.00	
Investment Earnings	19.14	
PLUS TOTAL RECEIPTS		1,582.14
DISBURSEMENTS		
Current Expense	0.00	
LESS TOTAL DISBURSEMENTS		0.00
Ending Fund Balance		8,109.57
Less - Investment Balance June 30, 2016		(7,733.89)
CASH BALANCE JUNE 30, 2016		375.68

ALL FLOOD DISASTER FUNDS (3015,3280,3281,3282,3284,3293,3294,3295,3296,3297,3298,3299)

Fund 3015 (OCT '12 SANDY DISASTER) Cash Balance July 1, 2015		565,765.15
Fund 3282 (NOV '03 FLOOD DISASTER) Cash Balance July 1, 2015		11,247.30
Fund 3284 (MAY '04 FLOOD DISASTER) Cash Balance July 1, 2015		1,678.44
Fund 3293 (JUN '08 FLOOD DISASTER) Cash Balance July 1, 2015		3,745.61
Fund 3295 (MAR '10 FLOOD DISASTER) Cash Balance July 1, 2015		3,208.13
Fund 3296 (DEC '09 FLOOD DISASTER) Cash Balance July 1, 2015		1,683.25
Fund 3297 (FEB_MAR '12 FLOOD DISASTER) Cash Balance July 1, 2015		68,600.32
Fund 3298 (MAR '12 FLOOD DISASTER) Cash Balance July 1, 2015		1,937.64
Fund 3299 (MAR '12 FLOOD DISASTER) Cash Balance July 1, 2015		117,542.45
RECEIPTS		
Fund 3015 Transfers In Hurricane Sandy Disaster	0.00	
Fund 3284 Transfers In	0.00	
Fund 3295 Transfers In	0.00	
Fund 3297 Re-characterization	0.00	
Fund 3297 Transfers In	0.00	
Fund 3298 Transfers In	0.00	
Fund 3299 Transfers In	0.00	
PLUS TOTAL RECEIPTS		0.00

DISBURSEMENTS

Fund 3015 Contractor Pmts for Capital Asset Proj	(393,491.97)	
Fund 3282 Repairs and Alterations	(0.18)	
Fund 3282 Repairs and Alterations	(9.22)	
Fund 3282 Repairs and Alterations	(0.38)	
Fund 3282 Repairs and Alterations	(714.43)	
Fund 3282 Repairs and Alterations	(0.08)	
Fund 3282 Repairs and Alterations	(0.34)	
Fund 3282 Repairs and Alterations	(0.14)	
Fund 3282 Equipment	0.00	
Fund 3282 Contractor Pmts for Capital Asset Proj	(11,247.12)	
Fund 3284 Contractor Pmts for Capital Asset Proj	(1,669.22)	
Fund 3293 Contractor Pmts for Capital Asset Proj	(3,745.23)	
Fund 3295 Contractor Pmts for Capital Asset Proj	(2,493.70)	
Fund 3296 Contractor Pmts for Capital Asset Proj	(1,683.25)	
Fund 3297 Contractor Pmts for Capital Asset Proj	(68,600.24)	
Fund 3298 Contractor Pmts for Capital Asset Proj	(1,937.30)	
Fund 3299 Contractor Pmts for Capital Asset Proj	(117,542.31)	
LESS TOTAL DISBURSEMENTS		(603,135.11)
CASH BALANCE JUNE 30, 2016		172,273.18

RECAPITULATION OF FUNDS

	Revenue	Disbursements	Investments
General Fund	0.00	(19,468,079.00)	0.00
Consolidated Federal Funds	9,937,267.62	(8,976,690.59)	8,565,901.17
Appropriated Special Revenue Funds	22,448,410.03	(23,579,060.71)	9,362,454.99
Non-Appropriated Special Revenue Funds	32,035,635.58	(29,709,021.34)	101,142,413.05
TOTAL ALL FUNDS	64,421,313.23	(81,732,851.64)	119,070,769.21

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 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 recordation 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 liaison with the attorneys assigned by the State Attorney General's Office to projects such as land acquisitions, court cases, and other required real estate legal work. This Section also 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. During the past year, 323 right-of-entry letters were granted to governmental agencies, companies, and individuals to conduct construction activities in the state's rivers, creeks, and streams; 731 right-of-way licenses were granted for pipelines, underground or underwater cables, and overhead power and telephone lines crossing the state's waterways; and 432 large stream structure agreements were granted for bridges and culverts.

OTHER FUNCTIONS

This Office also is 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 77,002 acres, and Wildlife Management Areas/Public Access Sites 386,970 acres, for a total of 541,617 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 and 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
Audra State Park Lock 3 company	72.0
Cacapon Bridge Public Access Site Cacapon & Lost Rivers Land Trust, Inc.	1.0
Charles E. "Tate" Lohr Trout Hatchery B.A. Millican Lumber Company	495.0
Forks of Coal – Natural Area Forks of Coal Properties LLC	101.00
Greenbrier River Trail Greenbrier River Trail Association	5.50
Meadow River Wetlands Management Area EBX-EM LLC	81.0
Petersburg Trout Hatchery Sherrid & Carolyn Shuman	1.43
Ritchie Mines Wildlife Management Area Coastal Timberlands Company	100.0
Underwood Wildlife Management Area Kristen H. Gilmore	1220.0

LAND LICENSED OR LEASED TO DNR

AREA	ACREAGE
Alderson Bridge Public Access Site WV Division of Highways	0.25*
Becky's Creek Farm WV Department of Agriculture	1930.0*
Big South Wildlife Management Area Ark Land Company	3144.0
Blue Public Access Site WV Division of Highways	0.33*
Blue Creek Bridge Public Access Site WV Division of Highways	0.50*
Fisher's Ford Bridge Public Access Site WV Division of Highways Tufty Family Trust	0.335 0.15
Fort Ashby Public Access Site Frankfort PSD	12.0

Huttonsville Farm Wildlife Management Area WV Department of Agriculture	2720.0*
Jodie Bridge Public Access Site WV Division of Highways	0.50*
Lowell Bridge Public Access Site WV Division of Highways	0.47*
Man Public Access Site WV Division of Highways	0.50
Meadow Creek Public Access Site Sammy L. Pugh	0.50*
Milligan Creek Future Farmers of America Daniel Hart	0.794*
Pruntytown Farms Wildlife Management Area WV Department of Agriculture	1764.0*
Sandstone Public Access Site Mary Janis Boyd	0.16*
Shanghai Bridge Public Access Site WV Division of Highways	0.19
Schopperts Ford Bridge Public Access Site WV Division of Highways	0.884*
Tomblin Wildlife Management Area EIP West Virginia, LLC.	4275.0
Tug Fork Wildlife Management Area EIP West Virginia, LLC.	4508.0
Tuscarora Creek Streambank Protection Area Olean Acres, Inc.	0.52*
Wardensville Public Access Site Town of Wardensville	1.50

*Renewals not included in summary of new acreages

	ACREAGE
9 parcels acquired	2076.93
9 parcels licensed or leased	11,941.675
1 license or lease agreement canceled	-1.08
Net increase for FY 2015-2016	+ 14,017.525

OPTIONS TO PURCHASE OBTAINED

AREA	ACREAGE
Cacapon Bridge Public Access Site Cacapon & Lost Rivers Land Trust, Inc.	1.0
Greenbrier River Trail Greenbrier River Trail Association	5.50
Petersburg Trout Hatchery Sherrid & Carolyn Shuman	1.43
Underwood Wildlife Management Area Kristen H. Gilmore	1220.0
Tomblin Wildlife Management Area Wapiti Woods LLC	10,222.0

PARCELS IN PROCESS OF ACQUISITION

PARCELS IN PROCESS OF ACQUISITION:	6
TOTAL ACREAGE	10,392.00

AREA	ACREAGE
Cass Scenic Railroad State Park H.A. Taylor	5.0
Meadow River Wetland Greenbrier Mineral LLC	1.0
Eidolon Nature Preserve USA	9.69
Pinnacle Rock State Park John R. Butt	3.92
Spring Run Trout Hatchery Jerry Burke	150.0
Tomblin Wildlife Management Area Wapiti Woods LLC	10,222.0

PROPERTY MANAGEMENT

The Office of Land and Streams prepared and processed, through various stages of completion, 129 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 2015-2016, 755 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 15-16, 731 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 180,345 tons of sand and gravel from the beds of the streams in 2015-2016, as reflected below:

2015-2016 COMMERCIAL DREDGERS REPORT

Total Tonnage Used

COMPANY	RIVER/CREEK	TYPE	TONS
Tri-State River Products	Ohio River	Sand & Gravel	180,345

Law Enforcement Section



Law Enforcement Section

Jerry B. Jenkins, *Chief*

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.

LAW ENFORCEMENT PROGRAM

The WV DNR Law Enforcement Section normally has a staffing level of 123 Natural Resources Police Officers (NRPO) and 11 support personnel. During FY2016, one officer retired, three officers and two civilians resigned and seven new officers and four civilians were hired.

During FY 15-16, two officers were promoted to NRP Captain, four officers were promoted to NRP Lieutenant, and five officers were promoted to NRP Sergeants.

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

- The public and media outlets are following the work done by officers on the West Virginia Natural Resources Police Officer Facebook page. The Facebook page has resulted in an increase in state and national media contacts for additional information and the reporting of wildlife law violations.
- A new records management system was launched for tracking citations, warnings, complaints, officer reports, and for use as a hunting and fishing license revocation program. The purchase of an online event manager for the hunter education program is in the planning stages.
- The Section is continuing to move reports to a computer-based process since the purchase of laptop computers for the officers. The officers 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 the 2015 Legislature, three officers were assigned to work the Hatfield-McCoy Regional Authority effective July 1, 2015. Due to the expansion of the trail 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.
- The Natural Resources Police Officers assisted state, county, and local police and emergency personnel in rescuing and delivering food and supplies to the victims of the June flooding that devastated many West Virginia counties.
- Several Law Enforcement reporting forms have been made into an electronic format to allow for internet transfer and approvals. The Section continually utilizes technology to reduce travel costs. Cell phones, computers, and radios are used to transmit reports, complaints, and other pertinent information.
- Older equipment is regularly cycled out in attempts to avoid costly repair bills that often are short term and repetitive.
- The Section continues to work with federal and state agencies to secure grants to assist with equipment purchases. Law Enforcement has been closely monitoring our hunter education and boating grants to maximize returns from our expenditures of time and resources.
- Conference calls are being utilized to conduct meetings, boards, and planning sessions to cut down on in-state travel.

OFFICER TRAINING

Officers received training in cyber investigations, defensive driving, boat accident investigations, defensive tactics/water survival, search and seizure, swift water rescue, search/rescue, man tracking, 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.

DNR officers received training utilizing the seated battery for BUI and DUI apprehension.

The Section Honor Guard attended opening ceremonies, special events and funerals during this fiscal year. Feedback from this program has been overwhelmingly positive and the Section is working towards increasing the members to cover additional activities.



HUNTER EDUCATION PROGRAM

The mandatory Hunter Education Program in West Virginia continues to be a success. During fiscal year 2016, more than 6,152 students graduated from 437 statewide hunter education classes. The volunteer hunter education instructors continue to provide a great service to the Hunter Education Program. More than 186 volunteer instructors drove 11,950 miles and donated more than 3,117 hours to the mandatory program. Natural Resources Police Officers logged 1,177 hours and drove 8,601 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 that can be accessed on the DNR website www.wvdnr.gov. Online classes are also offered at the same site. Those interested in doing online courses have two options to select from. The courses are designed to eliminate the classroom portion; however, once completed, the student must print a voucher and then contact the nearest district office to make an appointment to take a hands-on practicum and final exam.

During the 2015 calendar year, West Virginia experienced 7 Class A hunting incidents, resulting in no fatalities. 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 one fatality. Class B incidents are defined as any other hunting related injury. Five of the Class B incidents involved tree stands resulting in no fatalities. Three hunters slipped/fell, two hunters experienced heart attacks, one was fatal, and one incident occurred from an unknown cause. Class C incidents are defined as non-hunting related shooting injuries. There were no Class C hunting incidents. Class D is defined as property damage reports. There were two Class D hunting incidents. There were five non-reportable incidents.

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 Schools program.

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 of the 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) have approved courses. Classes also are available online at www.wvdnr.gov. The Law Enforcement Section is directly involved in either teaching or assisting in these courses. 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 information out of the public.

Officers from this Section have participated in boating events and patrols around the state in an effort to promote water safety and reduce the number of accidents.

DNR officers participated in the nationwide program, *Operation Dry Water*, June 24-26, 2016, in an effort to reduce alcohol-related boating incidents. This operation resulted in 14 arrests and 195 other citations/warnings being issued. The Section has renewed their efforts towards 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-six commercial whitewater outfitters and guides were licensed for FY15-16.

During the fiscal year, it became mandatory for general outfitter and guides, conducting business in designated whitewater zones, to report their activities much like the whitewater outfitters. Sixteen general outfitter and guides were licensed for the FY15-16.

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 and equipment and investigates 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 4, 2015 – JULY 1, 2016

DISTRICT	ARRESTS				WARNINGS				COMPLAINTS		
	CHAPTER 20 ARRESTS	CHAPTER 22 ARRESTS	OTHER ARRESTS	TOTAL ARRESTS	CHAPTER 20 WARNINGS	CHAPTER 22 WARNINGS	OTHER WARNINGS	TOTAL WARNINGS	RECEIVED	WILDLIFE DAMAGE INVEST.	OTHERS INVESTIGATED
ONE	731	114	113	958	595	263	188	1046	1453	191	255
TWO	673	103	106	882	157	68	53	278	759	230	107
THREE	544	138	163	845	416	256	171	843	833	239	176
FOUR	579	63	125	767	887	220	198	1305	934	268	316
FIVE	1153	122	105	1380	901	623	112	1636	1224	195	214
SIX	665	63	61	789	539	175	75	789	721	81	109
TOTALS	4345	603	673	5621	3495	1605	797	5897	5924	1204	1177

REPORT OF PROSECUTIONS BY CHARGE

FY 2015–2016

HEADING AND CHARGE	DISTRICT						TOTAL
	ONE	TWO	THREE	FOUR	FIVE	SIX	
LITTERING							
Litter, Less than 100 lbs.	28	44	28	6	43	10	159
Littering, 100-500 lbs.	2	6	4	3	4	0	19
Littering, Commercial Purposes	0	1	0	0	0	0	1
Littering, Greater than 500 lbs.	0	0	6	0	1	0	7
Mandatory Disposal of Litter	1	10	4	1	13	1	30
Other Littering Violations	1	0	1	1	0	0	3
TOTAL LITTERING	32	61	43	11	61	11	219

HEADING AND CHARGE	DISTRICT						TOTAL
	ONE	TWO	THREE	FOUR	FIVE	SIX	
LICENSE							
Resident Hunting without License	21	16	22	17	66	12	154
Resident Fishing without License	24	40	25	15	219	17	340
Improper Hunting License	0	0	1	0	2	0	3
Making False Application - Hunting License	0	0	0	1	2	0	3
Hunting Deer without Class N License	0	7	3	1	10	2	23
Fishing Paraphernalia in Possession without License	6	8	3	1	9	2	29
Hunting Paraphernalia in Possession without License	0	1	0	2	3	1	7
Hunt Bear without Bear Damage	0	1	0	0	1	0	2
Hunting while License Revoked	2	0	0	1	1	1	5
Trapping without License	0	1	0	0	0	0	1
Making False Application - Lifetime Hunting and Fishing License	0	0	0	1	0	0	1
Making False Application - Hunting and Fishing License	0	0	0	0	1	0	1
Non-Resident Hunting without License	0	7	2	5	2	1	17
Non-Resident Fishing without License	12	80	2	3	10	1	108
Improper Fishing License	0	0	1	0	0	0	1
Making False Application - Fishing License	0	0	1	0	1	0	2
Deer - Hunt/Kill without RB/RRB Stamp	0	0	0	0			0
Deer - Hunt/Kill without RG/RRG Stamp	0	0	0	1	0	0	1
Child Support/Non-Payment/Misdemeanor	0	0	0	0	0	1	1
Other License Violations	0	5	7	2	15	0	29
TOTAL LICENSE	65	166	67	50	342	38	728

HUNTING

ATV in Restricted Area	1	0	0	0	6	1	8
Conspiring in a Violation of Chapter 20 (Hunting)	18	23	21	5	32	11	110
Exceeding Daily Bag Limit	0	3	0	8	12	1	24
Fail to Hunt with Child under Age 15	0	0	0	0	0	1	1
Failure to Check Game	3	18	32	13	79	18	163
Failure to Check Bear	0	0	0	0	4	0	4
Failure to Field Tag Game	4	4	18	7	20	3	56
Hunt Bear/Boar/Mig Bird/Prot Bird or Mammal	0	1	0	0	0	0	1
Hunt Bear/Boar/Mig Bird/Prot Bird or Mammal W/Bait/Trap/Net/Snare	0	4	0	1	0	1	6
Hunt/Fish/Trap without Photo ID in Possession	0	0	0	0	0	1	1
Hunting After Killing Legal Deer	0	1	1	0	1	2	5
Hunting Bear Closed Season	0	7	0	0	0	0	7
Hunting Closed Season	8	18	27	15	41	14	123
Hunting Deer During 1/2 Hour after Sunset and 1/2 Hour Before Sunrise	1	8	4	15	12	4	44

HEADING AND CHARGE	DISTRICT						TOTAL
	ONE	TWO	THREE	FOUR	FIVE	SIX	
Hunting on Sunday	0	1	2	4	9	1	17
Hunting Out of Season	0	0	0	0	20	2	22
Hunting Over Bait Turkey, Ruffed Grouse, Pheasant and Quail	0	2	1	0	3	1	7
Hunting without Permission	8	21	7	12	41	8	97
Hunting without Required Hunter Education Card	3	7	5	5	31	2	53
Illegal Killing or Taking of Deer, Turkey or Boar	2	6	3	0	8	1	20
Illegal Method of Hunting	0	2	5	0	0	1	8
Illegal Possession of Bear	0	13	0	0	3	1	17
Illegal Possession of Wildlife or Parts Thereof	21	49	61	39	142	18	330
Illegal Sale of Wildlife - including Bear	0	2	0	0	0	0	2
Illegal Transportation of Wildlife out of State	0	0	0	1	0	0	1
Illegal Trapping	0	4	0	0	1	0	5
Illegal Killing or Taking of Bear	0	6	0	0	0	0	6
Insufficient or No Blaze Orange	3	11	7	3	13	8	45
Interference with Hunter/Trapper	1	0	0	0	0	0	1
Kill Bear over Bait	0	0	0	0	1	0	1
Kill Turkey in Closed Fall Turkey Season	0	0	0	1	0	0	1
Loaded Gun in Vehicle	7	16	36	16	38	9	122
Negligent Shooting - Livestock/Property	0	0	1	0	0	0	1
Other Game Law Violations	0	23	10	3	30	2	68
Outfitter/Guide Operating without License	6	0	0	0	0	0	6
Shoot within 25 Yards of Vehicle	0	0	2	4	4	2	12
Shooting at Game not Plainly Visible	1	0	0	1	1	0	3
Shooting From or Across Highway	0	4	3	2	4	0	13
Shooting Across or in Public Road	1	0	0	0	0	1	2
Shooting within 500 Feet of Dwelling /400 feet of church or school	1	4	6	2	2	1	16
Shooting/Hunting from a Motor Vehicle	14	16	18	23	34	9	114
Shooting/Hunting from an ATV	0	1	1	0	1	0	3
Spotlighting with Firearm or Implement in Possession	9	4	7	2	8	1	31
Uncased Gun in Vehicle at Night	0	1	1	0	2	3	7
Uncased Gun on Sunday	0	0	0	1	1	0	2
Uncased Gun, Closed Season	0	1	0	0	1	1	3
Violation of Bear Law	0	2	0	0	1	0	3
Weapon/Firearm/Discharging Across Street	0	0	0	0	0	0	0
Hunting/Out of Season	0	0	1	0	0	0	1
Weapon/Firearm/Discharging within 500 Ft of Dwelling	0	0	1	0	0	0	1
Wildlife/Possessing Out of Season	0	0	0	0	3	0	3
TOTAL HUNTING	112	283	281	183	609	129	1597

HEADING AND CHARGE	DISTRICT						TOTAL
	ONE	TWO	THREE	FOUR	FIVE	SIX	
FISHING							
Conspiring in a Violation of Chapter 20 (Fishing)	0	0	0	3	2	0	5
Exceed Daily Creel Limit - Trout	0	0	0	1	0	0	1
Exceeding Daily Creel Limit	0	0	8	2	7	0	17
Fishing in Restricted Area	0	0	0	0	4	0	4
Fishing without ID	1	0	1	4	39	0	45
Fishing Without Permission	0	5	0	0	8	0	13
Illegal Possession of Fish, Minnows and Aquatic Life	0	0	3	2	2	0	7
Interference with Fishermen	0	2	0	0	0	0	2
Taking Fish by Illegal Method	0	1	2	2	4	0	9
Using Prohibited Bait in Restricted Area	0	2	0	0	0	0	2
Other Fishing Violations	0	2	2	0	7	1	12
TOTAL FISHING	1	12	16	14	73	1	117

BOATING							
Boating Under the Influence (BUI)	13	2	3	0	7	3	28
Boats - None or no Approved Lighting	1	0	0	0	2	0	3
Creating a Wake in a No-Wake Zone	3	0	9	0	0	0	12
Fail to Provide Wgt Info Sheet to Guide/Trainees	0	0	0	1	0	0	1
Improper Location or Spacing of Numbers on Watercraft	2	0	0	0	3	1	6
Insufficient Number of Life Preservers	22	52	14	2	42	1	133
Insufficient Number of Life Preservers - Non-motorized	0	2	0	0	0	1	3
Insufficient Number of PFDs - Motorboat	0	0	5	0	0	0	5
Insufficient Whitewater Guide/Trip Leader Requirements	0	0	0	1	0	0	1
Motorboat - No Fire Extinguisher	0	0	1	0	0	0	1
None or No Approved Equipment	2	0	2	0	7	1	12
Operate Commercial Whitewater Trip without License	0	0	0	1	0	0	1
Operating Unregistered Watercraft	3	4	1	0	11	0	19
Operating Watercraft without Proper Equipment	0	0	2	0	8	3	13
Operating without Required Boater Safety Card	2	0	0	0	2	1	5
Outfitter Employ Guide Trainee without Trainee Guide	0	0	0	1	0	0	1
Overloading a Watercraft	0	0	3	0	1	0	4
Passenger Under 12 without PFD While in Operation	0	3	2	0	1	2	8
Pulling Skier without Observer or Mirror	1	0	4	1	3	0	9
Wreckless Operation of Watercraft	1	0	1	0	3	2	7
Other Boating Violations	2	1	6	0	4	0	13
All Other Whitewater Violations	0	0	0	1	0	0	1
TOTAL BOATING	52	64	53	8	94	15	286

HEADING AND CHARGE	DISTRICT						TOTAL
	ONE	TWO	THREE	FOUR	FIVE	SIX	
WASTE MANAGEMENT							
Contributing to an Open Dump	2	8	10	6	13	2	41
Destruction, Concealment, Alteration of Records	0	1	0	0	0	0	1
Endangerment by Waste Disposal	3	0	0	0	2	1	6
Failure to Show Proof of Proper Disposal	2	17	14	4	8	2	47
False Material Statement or Representation	0	0	1	0	0	0	1
Open Burning of Refuse	5	21	8	9	16	3	62
Other Hazardous Waste Violations	0	0	0	1	0	0	1
Unauthorized Use of Dumpster	2	1	1	0	4	1	9
Unpermitted Solid Waste Facility	0	0	0	0	1	0	1
Waste Tire Violation	0	1	0	0	3	0	4
Other Waste Management & Solid Waste Violations	1	1	9	0	12	0	23
TOTAL WASTE MANAGEMENT	15	50	43	20	59	9	196

FORESTRY							
Abandoning a Fire	1	4	1	0	2	0	8
Burn Without Permit During Fire Season	0	0	0	0	1	0	1
Illegal Burning	5	8	4	0	26	1	44
Permitting a Fire to Escape	0	3	0	0	1	0	4
Violations of Ginseng Regulations	0	1	0	20	15	0	36
Other Forestry Violations	4	1	1	0	11	0	17
TOTAL FORESTRY	10	17	6	20	56	1	110

GENERAL							
Access Site - No Alcohol Consumption/Open	0	16	0	0	0	0	16
Access Site - Trash Disposal on Site	0	1	0	0	0	0	1
Access Site - Unauthorized Use of Access Site	0	6	0	0	0	0	6
Animal/Cruelty To	0	0	1	0	2	0	3
Battery on a Police Officer	0	1	0	0	0	0	1
Conspiracy to Commit Felony/Misdemeanor	0	0	0	1	1	0	2
Dogs Chasing Deer	0	0	1	1	0	0	2
Drive Left/Center - Hill or Curve	0	1	1	0	0	0	2
Drive Left/Center - Inter/Railroad	0	1	0	0	0	0	1
Drug/Narcotic Violation	0	4	0	3	0	0	7
DUI Aggravated 1st Offense	0	0	0	0	0	1	1
DUI/1st Offense	0	1	0	0	0	0	1
Failure to Pay Rental/Charge/Fee@State	0	0	0	1	0	0	1
False Reports/Emergency Incident	0	0	0	0	1	0	1
Fleeing from Officer in Vehicle	0	0	0	0	0	0	0

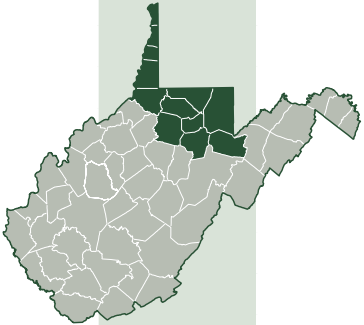
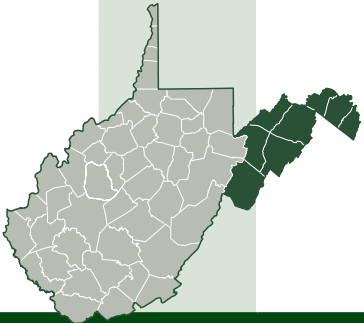
HEADING AND CHARGE	DISTRICT						TOTAL
	ONE	TWO	THREE	FOUR	FIVE	SIX	
Following Too Closely	0	1	0	0	0	0	1
Forgery	0	0	0	0	0	1	1
HMRA - No Permit	0	0	0	2	1	0	3
HMRA - No Helmet	0	0	0	0			0
Illegal Baiting/Feeding of Wildlife on WMA	0	1	0	0	0	1	2
Improper Lane Change	0	0	0	0	1	0	1
Insurance/Failure to Produce	2	0	0	0	0	0	2
Insurance/No Insurance	0	6	0	2	0	0	8
Larceny-Petit/All Other Thefts	2	0	0	0	0	0	2
Larceny-Petit/Other Vehicle	1	0	0	0	0	0	1
Liquor/Beer Possession by Minor	1	2	1	0	0	0	4
Liquor/Beer Sale to Underage Person	0	1	0	0	1	0	2
Liquor/Providing Alcohol to Minor	0	1	0	0	0	0	1
Loads/Unsecure	0	2	0	0	0	0	2
Miscellaneous Violations	1	2	2	4	24	0	33
Motor Vehicle on Unauthorized Roads/Trails	0	1	0	0	0	1	2
Motor Vehicle on Unauthorized Roads/Trails (State Park)	1	0	0	0	1	0	2
Motorcycle/Failure to Wear Helmet	0	1	0	0	0	0	1
MVI/Expired 30 Days or Less	0	4	0	0	0	0	4
MVI/Expired Over 90 Days	0	1	0	0	0	0	1
MVI/No MVI Sticker	1	10	0	0	0	0	11
No Motor Cycle Endorsement	0	1	0	0	0	0	1
Obstruct Drivers View/Control	0	1	0	0	0	0	1
Obstructing - Withholding Information	6	6	6	0	7	4	29
Obstructing (Physical Altercation-Aggravated Assault)	0	1	0	0	0		1
OL - Driving on Revoked OL/DUI	1	2	0	0	0	1	4
OL - Driving on Sus/Revoked OL	1	8	1	0	0	0	10
OL - Expired 30 Days or Less	0	1	0	0	0	0	1
OL - Fail to Change Name/Address	0	0	0	0	2	0	2
OL - Failure to Produce	0	1	0	0	0	0	1
OL - No Operators	1	4	0	1	0	0	6
OL - Permitting to Drive w/no OL	0	1	0	0	0	0	1
Open Container	0	2	0	0	0	0	2
Operating ATV on Highway	5	0	0	0	0	0	5
Parking/Illegal Parking	1	0	0	0	0	0	1
Pass Improper - Oncoming Traffic	0	1	0	0	0	0	1
Pass/Improper - Cut Pass Short	2	1	0	0	0	0	3
Passing in No Passing Zone	3	3	0	0	0	0	6

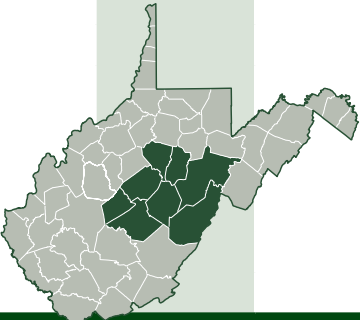
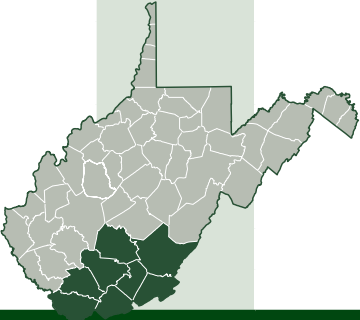
HEADING AND CHARGE	DISTRICT						TOTAL
	ONE	TWO	THREE	FOUR	FIVE	SIX	
Possession of Marijuana	3	5	0	2	5	0	15
Possession of Stolen Property	2	0	0	0	0	0	2
Public Health Offenses, Chapter 16	0	0	0	0	0	1	1
Public Intoxication	3	0	1	0	1	0	5
Reckless Driving	2	7	0	0	0	0	9
Registration - Expired	0	5	1	2	0	0	8
Registration - Expired 30 Days or Less	0	1	0	1	0	0	2
Registration - Expired 31 to 90 Days	1	0	0	0	0	0	1
Registration - Improper	1	0	0	0	1	0	2
Registration - Improper Display	0	0	1	0	0	0	1
Registration - No Registration	0	3	0	0	0	0	3
Seatbelt Violation/Adult	0	6	0	0	0	0	6
Shoplifting - 1st Offense <=\$500	0	0	0	0	1	0	1
Speeding - 10MPH & Under	0	0	1	0	0	0	1
Speeding - 15MPH Over	0	1	0	0	0	0	1
Stop Sign	0	2	0	0	0	0	2
Tobacco/Possession by Minor	2	0	0	0	0	0	2
Traffic Control Device/Failure to Obey	1	2	0	1	0	0	4
Trespassing	4	5	0	2	2	0	13
Turn - Failure to Signal	0	0	1	0	0	0	1
Underage Consumption of Alcohol	1	0	1	0	0	0	2
Unsecured Load	0	1	0	0	0	0	1
Use of Electronic Communications Device while Driving	0	0	1	0	0	0	1
Uttering	0	0	0	0	0	2	2
VICSA/Other Stimulants/Manufacture/State	0	1	0	0	0	0	1
VUCSA/Marijuana/Possession	4	0	0	0	0	1	5
VUCSA/Marijuana/Possession/State	2	0	0	0	1	2	5
VUCSA/Powder Cocaine/Possession/State	0	1	0	0	0	0	1
VUCSA/SYNH Narcotic/Possession/State	0	1	0	0	0	0	1
Warrant/Failure to Appear	0	0	0	0	0	1	1
Warrant/Serving for Other Jurisdiction	1	0	0	0	0	0	1
Weapon - Handgun/Carrying/1st Offense	0	1	0	0	0	0	1
Weapon/Brandishing Assault w/Handgun	1	0	0	0	0	0	1
Weapon/Firearm/Discharging Across Street	0	0	0	0	1	0	1
Weapon/handgun/possession by a felon	0	0	0	0	1	0	1
Weapon/Handgun/Possession other Prohibited Person	0	0	1	0	0	0	1
Weapon/Other - Firearm/Poss Other Prohibited	0	1	0	0	0	0	1
Weapon/Other Firearm/Possession by a Felon	1	3	0	0	0	0	4

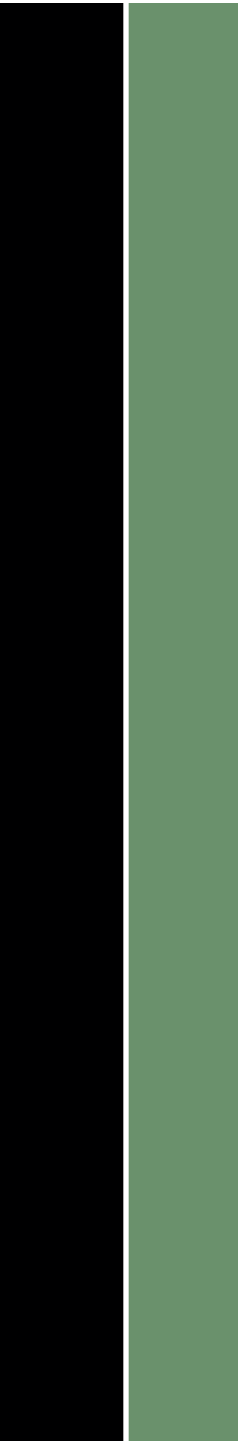
HEADING AND CHARGE	DISTRICT						TOTAL
	ONE	TWO	THREE	FOUR	FIVE	SIX	
Weapon/Other Weapon/Poss Other Prohibited Person	1	0	0	0	0	0	1
WMA - Possession Alcohol Campground/Rec	1	3	0	0	0	0	4
Violation of Park Regulations	2	5	2	0	4	3	16
Offense Outside Chapter 20	1	3	12	7	5	0	28
Construction without a Permit	0	0	0	0	0	1	1
WMA Violations	6	50	1	0	9	0	66
TOTAL GENERAL	69	204	36	30	72	20	431
TOTAL ALL PROSECUTIONS	356	857	545	336	1366	224	3684

PROSECUTION PROGRAM BY DISTRICT

FY 2015-2016

DISTRICT	TOTAL ARRESTS	TOTAL WARNINGS	COUNTY	NUMBER OF PROSECUTIONS	Dispositions of Prosecutions					
					CONVICTED	DISMISSED	ACQUITTED	FAILED TO APPEAR		
ONE 	972	833	Barbour	68	49	13	0	6		
			Brooke	5	3	1	0	1		
			Hancock	5	4	1	0	0		
			Harrison	16	9	6	0	1		
			Marion	28	20	5	0	3		
			Marshall	8	6	1	0	1		
			Monongalia	90	22	12	0	56		
			Ohio	30	21	7	0	2		
			Preston	50	27	11	0	12		
			Taylor	47	14	13	0	20		
			Tucker	3	3	0	0	0		
			Wetzel	6	2	1	0	3		
			TOTAL DISTRICT 1	356			180	71	0	105
TWO 	896	278	Berkeley	65	59	2	0	4		
			Grant	104	77	27	0	0		
			Hampshire	158	119	34	2	3		
			Hardy	108	84	15	3	6		
			Jefferson	216	175	6	0	35		
			Mineral	108	75	33	0	0		
			Morgan	40	33	7	0	0		
			Pendleton	58	45	8	0	5		
			TOTAL DISTRICT 2	857			667	132	5	53

DISTRICT	TOTAL ARRESTS	TOTAL WARNINGS	COUNTY	NUMBER OF PROSECUTIONS	Dispositions of Prosecutions				
					CONVICTED	DISMISSED	ACQUITTED	FAILED TO APPEAR	
THREE		859	843	Braxton	124	112	9	0	3
				Clay	36	26	6	0	4
				Lewis	138	101	13	0	24
				Nicholas	191	153	36	0	2
				Pocahontas	47	43	2	0	2
				Randolph	78	73	1	0	4
				Upshur	74	73	1	0	0
				Webster	45	39	5	0	1
				TOTAL DISTRICT 3	733	620	73	0	40
				FOUR		781	1,305	Fayette	75
Greenbrier	119	77	41					0	1
McDowell	16	13	2					1	0
Mercer	59	28	24					0	7
Monroe	3	3	0					0	0
Raleigh	7	2	2					0	3
Summers	9	8	1					0	0
Wyoming	48	42	3					0	3
TOTAL DISTRICT 4	336	231	85					1	19



DISTRICT	TOTAL ARRESTS	TOTAL WARNINGS	COUNTY	NUMBER OF PROSECUTIONS	Dispositions of Prosecutions			
					CONVICTED	DISMISSED	ACQUITTED	FAILED TO APPEAR
FIVE	1,310	1,636	Boone	153	105	48	0	0
			Cabell	197	72	124	0	1
			Kanawha	157	39	112	0	6
			Lincoln	129	53	76	0	0
			Logan	72	34	38	0	0
			Mason	237	179	58	0	0
			Mingo	142	108	34	0	0
			Putnam	147	104	42	0	1
			Wayne	132	35	93	0	4
			TOTAL DISTRICT 5	1,366	729	625	0	12
SIX	803	789	Calhoun	50	38	12	0	0
			Doddridge	5	4	1	0	0
			Gilmer	16	3	10	3	0
			Jackson	76	52	24	0	0
			Pleasants	3	2	1	0	0
			Ritchie	14	9	5	0	0
			Roane	12	6	6	0	0
			Tyler	5	4	0	0	1
			Wirt	8	3	1	0	4
			Wood	35	20	14	0	1
			TOTAL DISTRICT 6	224	141	74	3	6
STATE TOTALS	5,621	5,684	3,684	2,367	1088	10	219	

Parks and Recreation Section



Parks and Recreation Section

Samuel A. England,
Chief

OVERVIEW

The mission of the DNR Parks and Recreation Section, as described 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 general public. Through proper management and protection efforts, State Parks clearly demonstrate 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 million visitors annually and set aside for generations to come. Protected lands, such as these, were essentially non-existent when 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 it was 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, eight state forests, and two state rail trails. West Virginia citizens enjoying State Parks and Forests represent 65 percent of visitors while 35 percent are guests coming from outside the state. The recreational opportunities provided by the Section 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 serve 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 818 lodge rooms, 369 cabins, 1,522 campsites, 144 picnic shelters and 549 playground units. Park and forest staff maintain more than 2.5 million 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 Manns Creek Grist Mill, Twin Falls Resort Pioneer Farm, and the Droop Mountain Battlefield State Park CCC-era lookout tower, are iconic representations for West Virginia. Exceptional scenic overlooks are protected at areas such as Lost River, 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 seven million 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 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 two years. Although always rated very high, this year the specific written comments have been overwhelmingly positive compared to previous years. The number of complaints received directly in the central office are significantly lower as well. In the face of a year of budget constraints, staff reductions and other challenges, the focus of hospitality and service continues to be a priority.

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 adult citizens who have remained within the borders 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, housekeepers 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 State Parks and Recreation Section, the new 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 FY16. 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 FY16.

Education

As we develop the response to nearly 100 years of operating state parks and forests for West Virginia, we acknowledge that our mission now must have an 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 naturalists 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. Our facilities are considered outdoor learning laboratories, 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 in the study is the total economic impact of the system annually is 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 state park system. In other words, in FY16, 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.

Other key findings are:

- In FY16, West Virginia State Parks and Forests attracted 7.1 million visitors who spent \$226.5 million throughout the state during these trips. Approximately 46 percent [\$103.6 million] of this spending was by out-of-state visitors.
- The total economic significance of West Virginia State Parks and Forests during FY16 was between \$213.4 million and \$248.7 million. Economic significance is a measure of all economic activity attributed to park visitors.
- Economic activity stimulated by visitation to West Virginia State Parks and Forests was associated with approximately \$140.9 million in value added effects which is a measure of the park system's contribution to the gross domestic product of the state.

- Outside of the park system, the sectors of the West Virginia economy that capture the most visitor spending are lodging accommodations and restaurant/bars.
- Visitor spending attributed to four park categories are estimated as follows:
 - ◆ Lodge and Resort State Parks (10 areas): \$118.6 million in spending
 - ◆ Cabin, Camping, and Day-use State Parks (26 areas): \$74.3 million in spending
 - ◆ Rail Trails (2 areas): \$10.1 million in spending
 - ◆ State Forests (6 areas): \$23.6 million in spending

A complete report is available which lists details of the economic significance (a.k.a. economic activity) and economic impacts calculated for each park location, can be found at www.wvdnr.gov.

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 FY16 total of all accounts equaled \$41,766,500. The General Revenue appropriation in FY16 was \$12,578,648 and is used solely for classified service salaries and benefits for the majority of full-time staff within Parks as well as a few DNR Administration Section personnel who are charged to Parks due to their role in support of Parks administrative efforts. Lottery Account 3267 funds in FY16 were \$2,233,887 and are also used for Parks salaries and benefits plus a small portion legislatively dedicated to the Prickett’s 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. DNR’s Planning, Engineering and Maintenance Section has identified \$45.3 million in projects and deferred maintenance work which should be completed in the near future.

Revenue Generation

Revenue generated by the system operations is held within the Special Revenue 3265 Account. Collections from FY16 ended approximately \$700,000 above last fiscal year. This is significant, considering the unrealized revenue from the transferred Wildlife Management Areas and Cass locomotive operations (July through October) compared to FY15. It is estimated this would have contributed an additional \$750,000 to the revenue receipts. The increase in revenue can be attributed to the excellent effort by superintendents and staffs in finding additional revenue sources, making appropriate rate recommendations and providing services, retail and facilities at the quality level to cause guests to visit and return. Several superintendents report record levels of revenue for FY16.

Infrastructure

See DNR’s Planning, Engineering and Maintenance Report.

Funding

The greatest challenge facing the system is a lack of necessary 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 over time and have exceeded \$3 million. These unfunded liabilities include funding for Affordable Care Act, minimum wage increases, OPEB, and payments to other state agencies.



Diversity

It is important that the system cultivates a workforce representative of the people of West Virginia. In order to do so, Parks desires to increase the representation of minority groups in the work force. 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 system-wide 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. Over the years, this function has come to be expected from local 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 are constant challenges. This section of the annual report will focus mainly on repair and improvement items.

Audra State Park

One new electric site was built at the campground, bringing the total available to seven. Heavy rains caused flooding in late June with heavy damage to river-side campsites. The park received a WVDOH trail grant for repairs to Alum Cave Trail.

Babcock State Park

The installation of Wi-Fi internet that serves the campground was completed this year. Babcock was host to the 2nd Annual Sticks and Stones Trail Run October 10, a 15K that incorporates three of the most popular trails. A new footbridge was fabricated and set into place in a very remote section of the Narrow Gauge Trail.

Beartown State Park

Many fallen trees had to be removed along the boardwalk at Beartown and damaged decking was repaired.

Beech Fork State Park

Lost Trail hiking and biking trail was renovated to US Forest Service specifications. Two new trailhead parking areas were created for both the Lost and Overlook Trails. Repairs were made to swimming pool to correct a severe leak. The annual spring cleanup was held on April 2 with 95 volunteers who removed 2,540 pounds of trash and 39 tires. Wi-Fi was installed into the Old Orchard Campground. A kayak/canoe workshop program was created.

Berkeley Springs State Park

The park benefited from the Town of Berkeley Springs receiving a Streetscape Grant, in cooperation with the park foundation, which provided funding for construction of new steps and sidewalks, removal of deteriorated hedges, new paver blocks and landscaping. The park entrance road was repaved, which also corrected a water drainage issue. Special events included the Apple Butter Festival, the Summer Concert Series, monthly car shows, Art in the Park, Morgan County Master Gardner Plant Fair, weddings and many others.

Blackwater Falls State Park

Several additions were made to recreation facilities on the park this year; stand-up paddleboards and kayaks were added to the boat rentals, a swim-at-your-own-risk beach was opened at Pendleton Lake, and a disc golf course was installed. With the help of the Nature Conservancy and many volunteers, 2,700 Red Spruce trees were planted in an area of forest that is succumbing to Hemlock Woolly Adelgid and Beech Bark Disease.

Blennerhassett Island Historical State Park

Charters and special events continued to be popular and feedback from guests was positive. The Foundation took over operation of the concession stand on the island, including food for dinner cruises, which has led to faster service and more positive comments from guests. A new dock has been constructed which will allow storage of the sternwheeler in Parkersburg during the winter. New pilings were put into place at the landing site on the island to allow the boat to dock while loading and unloading guests.

Bluestone State Park

The cabin air conditioning and fire ring projects were completed, with all cabins now equipped with air conditioners and fire rings. Park crews cut the brush on the three main overlooks along Route 20 above the lake. Bluestone Lake hosted the 2016 National Power Boat Races, which drew many spectators and guests to the park. Work continues on the new access road.

Cabwaylingo State Forest

Spruce Creek Camp Ground was the focus of park staff maintenance work this year. Cabwaylingo hosted the first annual Access Trail Run. DirecTV was added to some of the cabins and will be added to additional cabins as conditions allow.

Cacapon Resort State Park

The north end veranda at the lodge received a new deck and ceilings to replace existing ones that were failing. The entire basement was renovated with a new game room installed. Renovations were started on the old conference room in the basement of the lodge to create new offices for the headquarters and operations in one central location. A controlled deer hunt was conducted for the first time. Site prep work was completed and construction started on an addition to the Nature Center. The Eastern Panhandle Conservation District donated 100 trees for planting on the park. Special Events hosted at the park this year included July 4th Celebration, Irish Road Bowling, Homecoming, Day of Halloween Activities, Pictures with Santa, New Year's Eve Celebration, First Day Hike, Valentine's Package, Big Bad Wolf, Easter Egg Hunt, Cacapon Foundation Gala, Clean Trail Day/Tree Planting Day, Hike Across West Virginia, and Fishing Derby Day..



Camp Creek State Park

Camp Creek State Park staff completed upgrades to five shelters including painting, repairing rotting material, reroofing, and rewiring. The Park Foundation continues to be vibrant with a new special event early in the spring to kick off the tourist season. This first year of the Timber Sports Competition & Ramp Feast drew nearly 1,000 visitors. The Foundation continues to work on projects to upgrade the amphitheater and had another excellent Fall Festival.

Canaan Valley Resort State Park

The Canaan Valley Improvement Project is in its third year. The new lodge rooms and improvements to the ski area have proven to be a huge asset to the park. However, the lack of good snow-making weather and natural snow the past two seasons prevented the park from realizing its full financial potential. The DNR staff, in cooperation with U.S. Hotels and Resort Management, undertook two major projects in preparation for the 2016/2017 ski season.

The first involved improvements to the ski area snowmaking capabilities. Two snowmaking ponds constructed in 2000 were never able to provide the water supply originally expected from their development. The repaired pond will provide an additional seven million gallons of water, which will more than double snowmaking capacity.

The second project was the complete replacement of the park's phone and internet system. The park suffered for years with poor phone and internet service. Representative from DNR and U.S. Hotels and Resort Management negotiated a deal with Frontier Communications to take on this project. The project is complete, and the phone and internet system at the lodge and ski are in service for the 2016/2017 season. The resort increased incoming bandwidth from 30 megs to 300 megs. The system is state-of-the-art and will allow bandwidth to be allocated from the lodge to the ski area based on demand.

Carnifex Ferry Battlefield State Park

The park hosted the "Floyd's Folly" Living History and Reenactment event in September with more than 100 reenactors participating. Concrete was poured for the expansion of the Sign Shop. A new HVAC system was installed in the superintendent's residence along with a wood-fired warm air furnace. The Sign Shop continues to make a signs for all sections of DNR and is also making signs for the National Parks in West Virginia. Approximately 1,100 signs were made during the reporting period.

Cass Scenic Railroad State Park

During the past year at Cass, the park held the first-ever haunted house in the town during Halloween with one of the original company houses being used for the haunted house. The event was a success and hopes are that it will continue to grow. Another new event was held, the first ever Christmas at Cass. Company Houses on Main Street were decorated with Christmas lights and families were able to enjoy breakfast with Santa along with a Holiday Bazaar at the Company Store and Restaurant.

Key maintenance items that were accomplished included: painting the interior of all company houses in the 300s, painting the interior of the Restaurant and Community Center. Internet routers were installed to each Company House through City Net. Guests can easily connect and have free access to Wi-Fi.

The Company Store underwent a major remodeling. Processes included replacing modern display units and shelving with original more historically appropriate display units.

Cathedral State Park

Trail work was the main focus with repairs to footbridges the major task. Fallen trees were removed from the trails as needed, and the park water system was maintained to meet testing requirements.

Cedar Creek State Park

The park staff completed construction on new boat docks at the park headquarters for paddle boat operations. A small shelter was constructed along the shore for patrons in waiting and fishermen to use during inclement weather.

Forty-six yards of concrete were poured during renovation of the park's miniature golf course. A five-foot-wide walkway that is ADA accessible was poured around the course to provide access for those who are physically challenged. New bumper boards and carpet were also installed on the course.

The upper storage building that was built in 2004 received insulation, OSB board, electric upgrades and a heater to make this building a more useful and accommodating facility for maintenance and equipment storage. Electrical upgrades were made at the campground check-in station and general store to allow for generator implementation during extended power outages.

Chief Logan Lodge

In the tenth year of operations, this facility's work with management and close planning with administration over the past two years have shown sustainable increases in revenue, occupancy, and property usage in general. Increasing services in demand, annual and new events, event packages and event pricing structures, along with hospitality training and hospitality initiatives, are driving sales in a positive way.

It is expected that the connector road that was started this spring will provide a boost to business when completed. Electric vehicle charging stations are in mid-stream planning phases along with many other initiatives which will serve as catalysts for increased revenues and for positive change.

The Chief Logan Recreation Center continued to provide lodge guests and the community with a variety of recreational activities. This property continued to offer events and to be an advantageous selling point in attracting business to the lodge. The Recreation Center has one of the few pools in the state that is suitable for competition with lodging adjacent.

Chief Logan State Park

The principal job that was completed at Chief Logan during the reporting period was the installation of a new restroom at Shelter 3. The connector road project continued and so far the route has been cleared of trees and earthmoving performed.

The park also was once again host for the Irish Road Bowling competition, an event that is gaining new players and popularity each year. As in previous years, the park hosted the Annual Sue Browning Wildflower Hike, The Aracoma Story Productions, The Aunt Jennie Wilson Music Festival, The Civil War Reenactment, and Christmas in the Park.

Coopers Rock State Forest

Through fundraising efforts of the Coopers Rock Foundation, a new restroom with paved walkway access was installed in the day-use parking area. The water treatment plant was painted, and the filtration system was repainted with epoxy to lengthen its lifespan.



Droop Mountain Battlefield State Park

Work was done on the overlook trail which included adding gravel to muddy areas, moving rocks and other trip hazards and trimming of encroaching trees and vegetation. The battle reenactment was a big success and well attended.

Greenbrier River Trail

The trail crew graded, ditched and resurfaced six miles of trail between Seebert and Buckeye and three miles north from Marlinton. All vault toilets, picnic tables and approximately 200 park signs were cleaned using a pressure washer. Working with the Greenbrier River Trail Association, a 5.5-acre parcel of land was purchased at Caldwell to eventually accommodate a new trailhead parking lot. The area around the maintenance shop at Seebert was cleared and leveled to create a new storage area for GRT equipment. Trees were removed to daylight all 35 bridges and all hazardous trees were removed from the camping areas. Just prior to the end of the reporting period, the trail was heavily damaged in places by flooding and landslides.

Greenbrier State Forest

Satellite television was installed in the four CCC Legacy Cabins. Four of the two bedroom cabins received bedding upgrades from full to queen beds in the bedrooms. A dozen new picnic tables were installed in the picnic area, and new sunbathing benches were built for the swimming pool deck. The 52nd Annual Show-Me Hike (spring wildflower hike), Greenbrier County Scout Day Camp and the Civil War Reenactment of the Battle of White Sulphur Springs were hosted by the forest.

Hawks Nest State Park

Hawks Nest has been replacing standard lighting with LED lights in an effort to become more energy efficient. Rebates from the purchase of these bulbs were used to purchase additional lighting throughout the park. On average the park has noted a 20 percent savings using this type of lighting.

To increase new revenue for the park, gift shop items, drinks and snacks were made available for purchase at the front desk. A new mini-golf course was completed and opened for Country Roads Festival.

Park staff worked with the International Mountain Bike Association to finish the Connector Trail that will allow the public to ride bikes from the New River Gorge Bridge to the Town of Ansted with completion expected in late 2016.

Holly River State Park

The cabin roof replacement project was completed with assistance from a local National Guard detachment. Heaters were installed in the campground bathhouses and the finishing touches were added to the gift shop including rock foundation. New equipment was purchased and installed in the restaurant. Volunteers assisted with significant trail work including installing new trail markers, bench seating, tree and brush removal. The park foundation provided funding to repair the wading pool.

Kanawha State Forest (including Forks of Coal Natural Area)

Improvements were made to the picnic shelters at Kanawha State Forest. Hydrants were installed to allow guests access to water, and the electrical outlets were converted to ground fault. The pool was closed permanently, and plans have been made to convert the bathhouse into a forest headquarters building. The snack bar area was improved to function as a nature center.

Just over 100 acres at the forks of the Big and Little Coal rivers were donated to WVDNR to become the Forks of Coal Natural Area. A large gravel parking lot was improved and three trails were built by Eagle Scouts. Park-style signage and a trail head kiosk were installed. Boundaries were signed and blazed.

A foundation was started for the area, and plans to build the Claudia Workman Wildlife Center were developed.

Kumbrabow State Forest

Stream restoration was complicated by heavy rains, and some minor flooding damaged forest roads. Staff refinished the floors in four cabins, reconditioned hand pumps and built new wildlife resistant trash can holders. Staff assisted the Wildlife Section in staining the observation tower on Potato Hole Trail. Trail work included clearing overgrown areas and re-routing Mill Creek Trail to access crossing points once the creek restoration project was completed. All cabin porches were re-screened.

Little Beaver State Park

The siding project on the main park headquarters building continued throughout the year. A water line break in front of the park office building was repaired along with some much-needed upgrades to the water system. There was also a water line break under the road in front of the shelter restrooms which necessitated replacement and upgrades as well. The landscaping project for the slope directly across the road in front of the main office continued with the planting of junipers, as well as 100 bags of mulch being spread over the area.

Lost River State Park

Many repairs and renovations were made at several of the facilities and on the grounds in the park this past year. The exteriors of Cabins 19 and 21 were painted. A new footbridge was installed which leads to Cabin 11 and the historic Lee House. Another footbridge was replaced near Shelter 1, and the bridge leading to Cabins 12 and 13 was replaced with a new footbridge. A new swinging bridge was built by the park's maintenance staff on Howard's Lick Trail. Bear-resistant trash receptacles were installed at Cabin 25, near the park administration building and near the small shelter above the swimming pool. A nice display shelf was built to showcase gift shop items in the main office area. The Heat-o-lator style vents in the fireplaces of Cabins 15,16,17,18, 20, 22, and 23 were filled in and blocked off. This completes the project to seal all of the fireplaces that had these old circulation systems. New kitchen appliances were added to the kitchen of Cabin 18. Twenty-five red oak saplings were planted throughout the park. Two water reservoirs near the park administration building were drained, inspected, and cleaned. Six of the park's trails were marked with plastic trail blazes.

Moncove Lake State Park

A new chemical control system and associated plumbing were installed at the swimming pool. Two significant water line leaks were repaired. The information kiosk was repaired and updated. The Union Lion's Club hosted the 4th Annual Kid's Fishing Derby in April with approximately 140 children in attendance. The Easter Divide Chapter of the National Wild Turkey Federation hosted the 4th annual JAKES Day youth event in September with approximately 70 adults and children in attendance.

North Bend Rail Trail

An aggressive cutting back of the corridor to remove encroaching brush and saplings was started this year in addition to the use of herbicide to prevent its return and open up bridges. Several areas were targeted for drainage issues and culvert replacement or installation including the Tunnel 17 area West of Cairo and Tunnel 7 and 8 on either side of Pennsboro. The trail was awarded another \$600,000 to bring the total to \$1.03 million in WVDOH grant money for drainage and surface improvements. The NBRT foundation was recently awarded a grant for two more vault toilets, which will bring the total to five.



North Bend State Park

Revenue was up compared to past years, despite a decline in occupancy. Two main issues have contributed to the decline in occupancy: the slowing of the natural gas industry in the area and the opening of another hotel in the county. The park expanded the fee-based programming offered while continuing with the traditional programming provided free of charge. A new program to offer swimming lessons at the pool began this year. New amenities added at the pool included a slide, water basketball hoops, umbrellas, and additional pool furniture. Through the “Intro to Adventure” and “Quest” programs, the park offers instructions and guided outings in outdoor recreation activities and pursuits. As guests became more familiar with the programs and staff improved the activities and options, there was a noted increase in interest for these programs. Rock climbing was added this year to the menu of Quest opportunities.

Panther Wildlife Management Area

An upgrade to the Group Camp began in FY16 and included painting building interiors, roof repairs, siding repairs, new folding chairs and tables, picnic tables and trash receptacles as well as parking lot border posts. A local contractor volunteered an excavator and operator to help install a water line and remove tree stumps.

Pinnacle Rock State Park

Pinnacle Rock State Park maintenance staff worked to reopen all seven miles of trails and repaired several water leaks to the aging facility. Four acres were donated to the park, which brings the total acreage for Pinnacle to 400.

Pipestem Resort State Park

Three significant repair and replacement contracts were in progress through much of the year at McKeever Lodge, including the installation of a new fire alarm system, replacement of all HVAC circulation piping, and structural stabilization affecting the indoor pool glass curtain wall, dressing rooms, and ventilation, the Canyon Rim Café and adjoining plazas, and structural steel supports around much of the building. Large public areas of the building were closed for most of the year, including the café, some meeting rooms, and the indoor pool at times.

Also at McKeever, the courtyard adjacent to the main entrance was newly landscaped and made accessible to guests from inside the lodge and directly from adjacent guest rooms. As part of this project, a deer-proof privacy fence was installed across the courtyard’s front side to allow attractive plantings of flowers, shrubs and trees. The lodge’s seven-story exterior south, southwest, and west facing sides were repainted, and balcony deck repairs were completed at the same time.

Pipestem’s in-house commercial laundry facility was taken out of service. Provision of linens was contracted out to Sanitary Linen Service, necessitating the permanent conversion of the Mountaineer Meeting Room into a linen sorting and storage facility, complete with truck loading dock. In food service, this was a year of transition. Resort Foodservice, Inc. ended its tenure as food concessionaire in October. Park staff stepped up and ran the food service for two full months, upon which time Powerhouse Food Service, Inc. assumed operations. Mulligan’s Restaurant was renamed Wings and Swings Grill and Sports Pub.

FlingGolf was introduced to both Pipestem golf courses this year and has provided a lower skill level option for guests wanting to get out on the links. Along with traditional golf, disc golf, mini-golf, and FootGolf, Pipestem has the golfing market cornered. Other new recreation offerings this year included kayaks and paddleboards for Long Branch Lake, and golf driving cages for the 18-hole clubhouse and nearby court area. Pipestem continued in the spring of this year to provide its exciting Trophy Trout Fishing opportunity in the Bluestone River.



Among the many special events held throughout the year, Pipestem hosted the IBO's 1st leg of the Triple Crown. This three-day event brought about 1,000 competitive shooters from all across the nation, eclipsing the ESCAPE conference to become the largest annual event Pipestem hosts.

Cooperative agreements were developed with Bluefield Area Transit and the Chuck Mathena Performing Arts Center to expand activity offerings and improve value for park guests.

With the assistance of the WVDOH, paving of most of the park's main road this year greatly improved appearances. New sidewalks with full accessibility and tactile warning surfaces were installed between McKeever Lodge and the 18-hole golf clubhouse.

Pipestem's first controlled deer harvest was successfully and safely conducted in November, harvesting 51 deer.

Prickett's Fort State Park

Visitors were provided with a varied array of historic demonstrations and presentations throughout the year with a full schedule of free outdoor summer concerts. The park also hosted a special display of West Virginia-made historic firearms on loan from the Kentucky Rifle Foundation. Maintenance staff replaced the floatation system of the courtesy dock, made improvements and repairs to the sewage treatment plant, and repaired the main gate of the fort with custom made hinges.

Seneca State Forest

Fire tower rentals during the inaugural season were extremely successful with 95.9 percent of the available nights rented. Staff completed safety improvements at the tower, including fencing along the stairway and railing. The PEM staff completed extensive repairs to the deteriorating maintenance shop foundation. Two cook stoves and 14 mattress sets were purchased and installed in cabins. Fourteen miles of hiking trails were blazed by volunteer help.

Stonewall Resort State Park

For the 14th consecutive year, the resort attained the AAA-Four Diamond Award for excellence. Financing was secured to remodel the lodge and is scheduled for completion this winter. The Fox Cabin was successfully transferred from its original location to what will eventually become the Appalachian Heritage Village at the resort. The television show Barnwood Builders was hired by the foundation to disassemble, transport and reassemble the cabin while filming the process for the television show. The first cottage funded by the sale of securities was completed last year and rented beyond expectations. A second cottage funded by the sale of securities is currently under construction. In the near term, the resort plans to discontinue operating its own water plant and begin receiving public water from West Virginia American Water.

Tomlinson Run State Park

A new ADA fishing area and ADA parking spots were built along the lake, and a nearby pit toilet was made accessible. A new playground with swings was purchased by the Park Foundation and installed at the campground. The campground gift shop and check-in building was remodeled. Staff started replacing the old beds and mattresses at the Group Camp.



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

A new storage building was purchased and erected by park staff to house the new zero turn mower along with park cleaning supplies. The local Daughters of the American Revolution Chapter paid for and had installed new water lines throughout the 220 year old Mansion House Museum. New ballasts were installed on the porch security lights of the Museum.

Twin Falls Resort State Park

Remodeling the closed museum into a Nature Center was the main project for the year and included installing a metal roof, replacing part of the flooring, installing wood veneer on walls and ceiling, new windows, adding a new water service line and two public restrooms, new lighting, painting the exterior of the building, and adding stone veneer around the foundation.

Two cabins received new metal roofs and the underground electrical service was replaced to four cabins including new wire, conduit and switch gears, and a new front deck with accessible ramp was built at Cabin 14.

The front porch floor and roof at the Pioneer Farm house were replaced, including new wooden shingles. Two sheds at the barn were rebuilt and given wood shingle roofs, and the barn was repaired with three hand-hewed logs and a new wood shingle roof. Staff also installed 800 feet of split rail fence and ran a new water line from the campground to the farm.

More than 300 feet of 48-inch metal drain pipe were replaced at the golf course. Staff also rebuilt a 40-foot-long footbridge on Twin Oaks Trail with treated materials and log piers. Shelter 3 had concrete piers poured around each support with stone veneer added.

Tygart Lake State Park

Tygart Lake State Park initiated a long overdue upgrade to seven of 20 lodge rooms. The remodel included new tile in the entryways and bathroom areas, double-bowl vanities, bath fixtures, better amenities in all rooms, and the placement of refrigerators and microwaves in all 20 rooms. Plans are to continue each winter with the room upgrades as funds are available.

The Boston Beanery Restaurant had a management shift which resulted in a new CEO and the conversion of the lodge restaurant to the Apple Annie's brand along with the introduction of a new menu that featured more comfort food and less fried food. The change was greeted with mixed reviews, but overall the shift was successful.

The Nature Center and Park Office received a new shingle roof, and the work on the Nature Center continues. The fireplace was completed, and the interior continues to be a focus of remodel. Ultimately, the Nature Center will be the focal point of the park with an outstanding offering of an experiential learning center for children offering expanded nature themed events and workshops.

Triad Engineering is currently conducting electronic surveys on TLSP property due to the possible mine subsidence as a result of underground longwall mining by Leer Mines. Permission was granted to drill a 10- inch well, 340 feet deep, near the park residence to install electronic monitoring.

Taylor County Water Authority requested permission to install an additional 1 million gallon water tank adjacent to the existing tank on the hill along Dogwood Trail. The request was approved by park staff and plans have entered the real estate phase for further approvals.

Valley Falls State Park

Major upgrades and repairs were made to the park office. Repairs and upgrades were made to the restroom facility including new soap dispensers, faucets, and toilet seats. The old playground equipment was removed. A storage building was donated by the park foundation and is now being used to store wedding chairs as well as other equipment. The park again hosted the annual Valley Falls Car Show and the Valley Falls Mountain Bike Race, as well as a strongman competition. Also, the park was used for the filming of the West Virginia University 2016-2017 national TV commercial that is shown during all football, basketball, baseball, and other WVU televised sporting events. The park continued to have many weddings and family gatherings throughout the year.

Watoga State Park (includes Calvin Price State Forest)

Renovations at the Administration Building were completed. The old restaurant was redesigned to include the registration desk and new gift shop area for retail sales. The hardwood floors were refinished, electrical and plumbing reconfigured, and a display area and Wi-Fi lounge made available. Improvements were made within both Riverside and Beaver Creek Campgrounds. Riverside Campground bathhouses received interior improvements with new sinks, mirrors, light fixtures, painted walls, and the lower bathhouse had tile flooring installed. Exterior improvements included staining both bathhouses as well as the check-in station. Cabin enhancements included the completion of 13 hardwood floors being varnished. Watoga was pleased to be chosen as the area for a cabin remodel project within PEM. Initial meeting and design plans have begun for the 10 Classic Cabins and one Legacy Cabin. The newly established Park Foundation has completed an immense amount of trail work to culminate in an annual half-marathon trail challenge fund raising event.

Watters Smith Memorial State Park

The entrance gate for the activity building and office received some aesthetic upgrades. Metal posts were constructed and adapted to hold two old metal hay spreader wheels. A metal gate was installed on the roadway leading to the Pioneer Shelter to provide extra security and easier closure of the park in the evening.

Trail work continued with several of the park's trails being repaired, contoured for erosion and cleared of brush. Four bridges were constructed along the Highwall Bypass Trail and the Rachel Hershey Trail/Service Road received further repairs with more large stone placed in holes.

The interior and exterior of Pioneer Shelter bathroom was repainted. The roof of the front porch of the Smith Home was repaired. Front and back porches of the log cabin were replaced and stained. The siding and roof of the old mill room was replaced. An extensive repair of the historical area fence line was completed. A new section of split rail fence was added below the Smith Home for aesthetics and security.

The park hosted JAKES Day event, annual mountain bike race and local YMCA Kids Camp Nature Walk.

Planning/Engineering/Maintenance

Planning, Engineering and Maintenance Section

Bradley S. Leslie,
Chief Engineer

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 represent 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 agencies 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 Wildlife sections, but also to the 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 agency's 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 FEMA 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, 2016

- Blennerhassett Island Historical State Park wheelchair lift purchase
- Buffalo Creek boat ramp improvements
- Camp Creek State Park office/maintenance roof replacement
- Carnifex Ferry sign shop building expansion phase 1, (foundation and concrete floor)
- Chief Logan State Park precast toilet facility construction
- Claudia Workman Wildlife Education Center preliminary site planning
- Elk River carry down boat access
- Remodel District 5 DNR offices at existing Forks of Coal Building
- Rock House Lake roadway and parking paving
- Pipestem Resort State Park fire alarm replacement
- Pipestem Resort State Park McKeever Lodge guest room windows and doors replacement
- Pipestem Resort State Park McKeever Lodge HVAC piping replacement
- Pipestem Resort State Park tram repairs (emergency and routine)
- Cacapon Resort State Park lodge north canopy repairs
- Tomlinson Run State Park ADA fishing pier
- Tygart River boat ramp improvements
- Watters Smith Memorial State Park waste water treatment plant replacement

Design Projects completed as of June 30, 2016

- Beech Fork State Park campground improvements
- Blackwater Falls State Park phase III Sled Run
- Blennerhassett Island Historical State Park boat hull inspections
- Cacapon Resort State Park Old Inn HVAC repairs
- Cacapon Resort State Park Old Inn restoration
- Cacapon Resort State Park Upper and Lower Dam repairs
- Conaway Run Wildlife Management Area Dam repair
- Coopers Rocks State Park water and wastewater system upgrades
- Hawks Nest State Park CCC museum restoration
- North Bend State Park campground improvements
- North Bend Rail Trail emergency erosion repairs
- Pipestem Resort State Park campground improvements
- Tomlinson Run State Park ADA fishing pier
- Twin Falls Resort State Park structural repairs
- Watters Smith Memorial State Park pool, bathhouse and pump house demo

Construction and Design Projects in progress by June 30, 2016

- Babcock State Park waste water treatment plant design
- Blackwater Falls State Park phase III sled run
- Cabwaylingo State Forest repair fire damage to cabin
- Canaan Valley Resort State Park demolition of old sleeping rooms
- Cass Scenic Railroad State Park potable city water tank painting design
- CCC structures Inventory and condition assessment (system-wide)
- Chief Logan State Park spray park design
- Chief Logan State Park cabins design
- Claudia Workman Fish & Wildlife Education Center design
- Droop Mountain Battlefield State Park waste water treatment plant design
- Forks of Coal District 5 site improvements design
- Forks of Coal water treatment system design
- Greenbrier State Forest water system design
- Hawks Nest State Park Lodge structural repairs design
- Hatcheries Improvements and renovations design
- Lost River State Park potable water distribution design
- Model cabin project design
- North Bend Rail Trail emergency erosion repairs construction
- Palatine Park boat ramp and parking area design
- Pipestem Resort State Park cabin roofs repairs design
- Pipestem Resort State Park structural repairs construction
- Pipestem Resort State Park cabin area waste water treatment plant design
- System-wide picnic shelters addition design
- Spring Run Fish Hatchery feed storage building renovations design
- Tygart Lake State Park parking and boat ramp improvements
- Warden Lake boating access improvements
- Watoga State Park campground waste water treatment plant 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

Wildlife Resources 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 WVU 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 2015-2016, 169 hunters had deer antlers scored at one of the six WVDNR District Offices, Field Offices and during the West Virginia Hunting and Fishing Show in Charleston. During the 2015 hunting season, 82 big bucks were harvested with gun, muzzleloader, bow, or crossbow that met the score minimums and the requirements of the agency's big buck certification program. There are 19 WVDNR wildlife biologists and wildlife managers distributed throughout the state who are certified by the Boone and Crockett and Pope and Young Clubs as official scorers.

Sectional meetings were conducted at 12 sites around the state in March to present proposed regulation changes to hunters and anglers. These meetings also provide the general public an opportunity to make recommendations and ask questions relating to our regulation proposals and our agency's programs.

Special youth hunting opportunities were conducted for waterfowl, squirrel, turkey and white-tailed deer. The special youth hunts provide an excellent opportunity to introduce young people to the outdoors and the hunting tradition.

The West Virginia State Wildlife Center continues to excel as an outdoor educational facility. More than 47,505 visitors and 139 group tours utilized the area's facilities and enjoyed viewing West Virginia wildlife.

Staff conducted or assisted in 10 fishing education events involving more than 1,000 participants. These events included National Fishing and Boating Week, Hooked on Fishing Not on Drugs and Becoming an Outdoors-Woman.

Information and Education staff gave 14 presentations to approximately 622 people. Staff also worked at Junior Conservation Camp, and wrote and administered the Wildlife Exam for the West Virginia Envirothon. Personnel edited, proofread and updated the hunting and fishing regulations in print format and on the website. Staff reviewed and coordinated web updates for the Wildlife Resources Section. They helped with writing, editing, and proofing the West Virginia Wildlife Calendar and legislative rules. Staff edited, approved, and coordinated with Department of Commerce Marketing and Communications for the publication of various brochures. Staff also implemented a strategic marketing plan with Communications to promote our electronic game check system.

Lottery proceeds were used to place advertisements in both electronic media (TV and radio) and print media (magazines and newspapers) to promote hunting and fishing, the National Hunting and Fishing Day event, and the State Wildlife Center.

The 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 WVDNR Report radio programs were broadcast over 17 MetroNews affiliated stations throughout the state.

Project WILD provides training for formal and non-formal educators across the state. In the past year, 24 educators attended two Project WILD workshops held in Nicholas and Logan counties.

The Becoming an Outdoors-Woman (BOW) program is continuing to introduce women to outdoor activities. The spring workshop was attended with more than 30 participants. The women participated on hands-on hunting, fishing, backpacking, canoeing and other outdoor-related skills classes..

West Virginia Wildlife Endowment Fund

The total market value of the fund at the close of FY16 was \$54,442,855.68. During Calendar Year 2015, there were 424 Adult Lifetime Licenses sold, 1,491 Infant Lifetime Licenses sold, and 6,337 Senior Lifetime Licenses sold for a total dollar amount of \$891,726.

Hunting and Fishing License Unit

The Hunting and Fishing License Unit is responsible for administering all aspects of the hunting and fishing license operations. In 2015, there were 868,658 license privileges sold resulting in license revenue of \$14,948,081.

We went live with the new electronic licensing system (ELS) January 1, 2015, marking the first 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 2015
Total License Sales

RESIDENT				
Class	Description	Price	Number	Amount
A	Hunting and Trapping	\$19.00	22,189	\$421,591
AH	Aprentice Hunt & Trapp	\$19.00	676	\$12,844
AHJ**	Aprentice Junior Hunt & Trapp	\$11.00	664	\$7,304
B	Fishing	19.00	84,346	\$1,602,574
N	Antlerless Deer Hunting	10.00	68,127	\$681,270
BG	Big Game	10.00	6,282	\$62,820
RG	Additional Deer - Firearms	21.00	23,200	\$487,200
RB	Additional Deer - Archery	21.00	17,746	\$372,666
RM	Additional Deer - Muzzleloader	16.00	1,621	\$25,936
X*	Sportsman Hunting/Trapping/Fishing	30.00	95,570	\$2,867,100
XJ**	Junior Sportsman Hunting/Trapping/ Fishing	11.00	7,390	\$81,290
A-1	Small Arms Hunting	8.00	7,466	\$59,728
DS	Bear Damage Stamp	10.00	24,813	\$248,130
O	Trout Fishing	10.00	93,645	\$936,450
CS***	Conservation Stamp	5.00	203,779	\$1,018,895
Resident Subtotal			657,514	\$8,885,798

*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	15,700	\$31,400
E	Non-resident Hunting/Trapping	119.00	25,825	\$3,073,175
EE	Non-resident Bear Hunting	162.00	1,496	\$242,352
AAH	Non-resident Aprentice Hunt & Trapp	\$119.00	121	\$14,399
AAHJ	Non-resident Aprentice Junior Hunt & Trapp	\$16.00	452	\$7,232
F	Non-resident Fishing	37.00	12,032	\$445,184
H	Non-resident Small Game Hunting - 6 day	27.00	739	\$19,953
LL	Non-resident Fishing - 1 day	3.00	44,401	\$133,203
NN	Non-resident Antlerless Deer	27.00	14,890	\$402,030
RRG	Non-resident Additional Deer - Firearms	43.00	4,605	\$198,015
RRB	Non-resident Additional Deer - Archery	37.00	1,940	\$71,780
RRM	Non-resident Additional Deer - Muzzleloader	37.00	163	\$6,031
UU	Non-resident Archery Deer	32.00	6,850	\$219,200
VV	Non-resident Muzzleloader Deer	32.00	1,647	\$52,704
WW	Non-resident Turkey	32.00	3,439	\$110,048
XXJ	Non-resident Junior Sportsman	16.00	2,066	\$33,056
A-1	Small Arms Hunting	8.00	893	\$7,144
DS-EE	Bear Damage Stamp	10.00	1,496	\$14,960
OO	Trout Fishing	16.00	14,151	\$226,416
J	Small Game Shooting Preserve Hunting - 6 day	10.00	1,031	\$10,310
CS/LE	Non-resident Conservation / Law Enforcement	13.00	57,207	\$743,691
Non-resident Subtotal			211,144	\$6,062,283

**** Non-resident DS is equal to EE purchases.

***** Available through goWILD! Online only

Grand Total Resident + Non-resident Sales	868,658	\$14,948,081
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Hunting and Fishing License Sales By Class — Calendar Year 2015
Lifetime Agent License Sales

ADULT				
Class	Description	Price	Number	Amount
	Adult			
A-L	Hunting and Trapping	\$782.00	4	\$3,128.00
AB-L	Hunting, Trapping, and Fishing	\$805.00	258	\$207,690.00
A-1-L	Small Arms Hunting	\$75.00	37	\$2,775.00
B-L	Fishing	\$552.00	19	\$10,488.00
O-L	Trout	\$230.00	106	\$24,380.00
Adult Subtotal			424	\$248,461.00

INFANT				
Class	Description	Price	Number	Amount
	Infant			
A-L-I	Hunting and Trapping	\$391.00	1	\$391.00
AB-L-I	Hunting, Trapping, and Fishing	\$402.50	1,084	\$436,310.00
B-L-I	Fishing	\$276.00	9	\$2,484.00
O-L-I	Trout	\$115.00	397	\$45,655.00
Infant Subtotal			1,491	\$484,840.00

SENIOR				
Class	Description	Price	Number	Amount
	Senior			
XS	Hunting and Trapping	\$25.00	6,337	\$158,425.00
Senior Subtotal			6,337	\$158,425.00

Grand Total Lifetime Sales			8,252	\$891,726.00
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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, and fish hatchery and dam improvements.

The year's major projects were:

1. Acquired 1 acre of land in for fishing and boating access to the Cacapon River in Hampshire County.
2. Purchased additions to three wildlife management areas:
 - ◆ Ritchie Mines WMA, Richie County..... 100 acres
 - ◆ Underwood WMA, Marshall County..... 1,220 acres
 - ◆ Tate Lohr WMA, Mercer County495 acres
3. Acquired 1.4 acres of land for hatchery expansion near Petersburg, Grant County.
4. Partnered with the Taylor Board of Education in improving boating access to the Tygart River at Camp Towles, near Grafton, Taylor County.
5. Cooperated with the Logan County Commission to pave the approach road and parking area of Rockhouse Lake, Logan County.
6. Partnered with the Town of Buffalo to complete construction of upgraded public boating access facilities on the Kanawha River in Buffalo, Putnam County.
7. Upgraded carry down boating access to Elk River near Ivydale, Clay County, in conjunction with an Eagle Scout Project by Paul Summers.

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 and, in 12 years of operation, has exceeded all expectations, reaching more than 325 schools. Because of this interest, WVDNR has hosted multiple trainings in every region of the state, reaching nearly 1,000 physical education teachers and volunteers. During FY16, WVDNR hosted seven Basic Archer Instructor trainings, adding an additional 125 teachers to the program. To address demand to certify additional instructors, in July 2015, the WVDNR developed a one-day training specifically designed for college physical education majors. Because of the program's success, the WVDNR has hosted 11 annual state archery tournaments. This year the Annual Archery in the Schools State Qualifying Virtual Tournament was held with 1,122 students from 54 schools participating. Of these students, 566 students from 46 schools participated in the state tournament held at the Charleston Civic Center. West Virginia had schools participate in the National Archery in the Schools Tournament in Louisville, Kentucky, and in the World Tournament held in Myrtle Beach, South Carolina.

The AIS Program has become the WVDNR's largest and fastest-growing educational program, reaching an estimated 110,000 students in the past 12 years. The WVDNR, along with the Department of Education and wildlife organizations, has been able to introduce students in grades 4-12 a life skill of archery. West Virginia is one of 48 states participating in this national program, with similar success being experienced by state wildlife agencies throughout the country. The WVDNR received national attention when the West Virginia School for the Deaf and Blind (WVSDB) became the first school in the nation for the hearing and sight impaired to participate in this program.





Hunters Helping the Hungry

The Hunters Helping the Hungry (HHH) Program is a cooperative effort involving the WVDNR, the Mountaineer and Facing Hunger Food Banks, and a network of more than 550 local food pantries, shelters, churches, and children's homes. Since its inception in 1992, the HHH Program has provided more than 1.2 million family-style meals to the state's hungry. In 2015, generous hunters donated 626 deer (24,713 pounds of nutritious meat providing more than 32,950 family-style meals). Deer processing and transport costs for the HHH Program in 2015 was \$42,506.36, which was offset largely in part with a grant from the West Virginia Department of Health and Human Resources and donations from the Share the Harvest Sunday fundraiser, Governor's One Shot Deer Hunt, wildlife organizations and the generosity of private individuals. Federal and State Laws prohibit the use of license revenue to fund this program and the WVDNR must rely upon the generosity of others through donations.

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 Days. Young people are exposed to a multitude of activities and displays with real 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 only to participate or they can compete. For some youngsters, this is the only opportunity they have to be exposed to these fun and exciting outdoor activities.

GAME MANAGEMENT

The Wildlife Resources Section (WRS), Game Management Unit, conducts habitat management and law enforcement activities on 91 Wildlife Management Areas (WMAs) and eight state forests totaling 452,038 acres. Acquisition of public lands and unique habitats (i.e., wetlands) continues to be a priority, especially in targeted regions of the state. Additions were made to four existing WMAs totaling 6,318 acres. Two new WMAs, the Tomblin WMA (4,278 acres) and Big South WMA (3,144 acres), were established through purchase and lease agreements in 2015-2016. In addition, an extensive wildlife management program was conducted on nearly 1.1 million acres of national forest land (comprised of 14 WMA units) located in West Virginia through a cooperative agreement with the U.S. Forest Service and West Virginia Division of Natural Resources (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 Corp of Engineers were held to coordinate management activities among the various agencies. Numerous land reviews and evaluations were conducted by the WRS during 2015-2016.

Management on the 91 WMAs and national forest lands is directed toward improving wildlife habitat for an array of species. Forest management activities were conducted on 1,510 acres with additional timber sales in the planning and marking stages. In addition, 291 acres of early successional habitat was created by non-commercial methods. 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 2,749 trees and shrubs for food and cover and pruning, releasing and/or grafting more than 91 acres of trees and shrubs.

More than 3,367 acres of wildlife clearings were mowed and 33 acres of new clearings were established. Lime and/or fertilizer were applied to 777 acres, and 750 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 130 acres. Herbicide was used on 553 acres of field and forested habitat to control undesirable/invasive vegetation. Sharecropping agreements with local farmers were executed on 1,440 acres to maintain open land habitat; 141 waterholes were maintained and seven new waterholes developed to provide a year-round water supply for wildlife.

Water levels on 216 acres of wetlands were manipulated to encourage waterfowl utilization. Three-hundred and thirty (330) waterfowl nest structures were maintained. Seventy-six (76) nest structures were maintained for other wildlife species.

More than 821 miles of roads and trails, and 18 bridges were maintained, and two miles of new road were developed. Road closures were installed and/or maintained at 549 sites and three new road closures were installed to prevent disturbance to wildlife and to protect wildlife habitat.

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, seven angler access sites and 196 parking areas were maintained for public use.

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

Forty-six (46) nuisance bears were destroyed and six were relocated. Hundreds of other bear complaints were resolved with harassment measures and/or removal of edible attractions. One hundred seventy-six (176) 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 WVDNR 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. Twenty-eight (28) businesses were licensed by WVDNR during 2016 as WDC agents. The WVDNR 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 impact wildlife and its respective 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.

Wildlife Population Surveys and Research

One (1) modified dove coo call count survey and 19 census 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 for the purpose of establishing regulations. Three-hundred sixty (360) mourning doves and 798 Canada geese were banded in 2015-2016 as a part of this effort. Fifty-six (56) ducks were banded and appropriate samples were collected for avian influenza testing in cooperation with USDA-APHIS Wildlife Services. 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).

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 actually completing detailed site specific management plans. Approximately 424 staff days were spent providing technical assistance to private individuals and landowners in 2015-2016.

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. A number of 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.

White-tailed Deer

West Virginia continues to be one of the favorite deer hunting grounds in the eastern United States. In 2015, deer hunters harvested 138,493 deer in the combined deer seasons. This is a 32 percent increase from the 2014 harvest of 104,707 and 10 percent more than the previous five-year harvest average of 126,067. The combined deer season harvest for 2015 is the 21st largest total deer harvest on record for West Virginia. The 2015 total deer harvest represents one deer killed for every 106 acres of deer habitat in the state, and a 46 percent harvest decrease from the record harvest of 255,356 deer in 2002. From 1945 through 2015, 6,134,525 deer have been recorded as harvested in West Virginia. Fifty-six percent (3,409,101) of the total recorded deer harvest of the past 70 years has occurred in the past 20 years.

Hunters took 1,093 deer in the special urban deer season in 2015. 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 Dec. 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 12th 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, 2,862 antlerless deer were harvested. This season was open on private and public land in any county open to a firearms deer season Oct. 17, 2015, and again Dec. 26 and 28, 2015. This was the 18th year a Youth special season was held. Overall, the harvest for the 2015 special Youth, Class Q and Senior Lifetime Class XS deer season increased 13 percent from 2014.

Special controlled deer hunts were held in 2015 at Pipestem Resort State Park and Cacapon Resort State Park. Fifty-one deer were harvested at Pipestem State Park during a three-day hunt Nov. 16, 17, and 18, 2015. Thirteen deer were harvested at Cacapon Resort State Park during a three-day controlled hunt Dec. 7, 8, and 9, 2015. This was the first time for such hunts on both parks. It is anticipated that additional controlled deer hunts on state park lands will be held in the future. 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 2015 deer seasons, samples taken from 202 hunter-harvested deer brought to WVDNR staffed stations in Hampshire County and two stations in northern Hardy County were tested for CWD. Eight samples were found to have the abnormal protein associated with CWD. CWD has now been detected in 191 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, the 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. Additionally, a well-documented method of spreading CWD across long distances is the movement of live species of deer for commercial purposes.

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

An active elk management plan has been started in southern West Virginia. A soft release holding pen was acquired from the Virginia Department of Game and Inland Fisheries via assistance from the Rocky Mountain Elk Foundation and erected on the Tomblin Wildlife Management Area in Logan County. A seed source of elk for translocation has been identified and trap and transfer is planned for November and December 2016. An elk population monitoring plan is being conducted using salt blocks and trail cameras. Monitoring stations in the elk management area were randomly selected from best elk habitat available. Best available habitat was determined through GIS analysis based in part on Kentucky elk habitat use. Additional Wildlife Management Areas have been created in the elk management zone.

Black Bear

West Virginia hunters harvested a record 3,201 black bears during the combined 2015 archery and firearms seasons. The kill has topped 2,000 in each of the past 6 years. The harvest of 2015 was 24 percent higher than the 2014 harvest of 2,581 bears and is 17 percent higher than the previous record of 2,735 set in 2012. West Virginia hunters have harvested 40,250 bears since 1979. Thirty-nine percent (15,601) of those bears have been harvested since 2010.

One-hundred fifty-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 down 9 percent from the 170 non-hunting mortalities recorded in 2014. There were 60 deaths from vehicles in 2015 compared to 78 in 2014. The number of illegal deaths was up from 2 to 3 from 2014 to 2015, respectively. Miscellaneous deaths increased from 7 in 2014 to 8 in 2015. Bears killed for nuisance or damage activity (marauders), remained at 83 in 2015. The combined seasonal and non-seasonal deaths (3,355) is the highest ever recorded in West Virginia.

Wild Turkey

Spring turkey hunters harvested 10,369 gobblers in 2016, up 14 percent from 2015. The 2016 season, April 18 through May 14, started on the third Monday in April for the first time in recent history, a week earlier than usual. Youth hunters checked in 380 gobblers during the one-day youth season held April 16. Preston County had the highest reported harvest of 16, followed by Raleigh and Upshur counties with 15 apiece, Wyoming County with 14 and Nicholas and Greenbrier counties with 13 each. Fall turkey hunters electronically checked in 1,140 birds in 2015. District 3 continued to lead the state in total harvest with 371 turkeys registered. District 4 was second (209) followed closely by District 2 (199), District 1 (187), District 6 (109) and lastly, District 5 (62). District 5's harvest is directly linked to the number of counties open for hunting; last year, only Mason County was open, whereas, in 2015, both Mason and Putnam were open for a 1-week season. All counties will have a fall season in 2016.

The survey of wild turkey broods is an important aid in forecasting the statewide harvests and changes in the wild turkey population. This season's total was 22 percent higher than 2014.

The spring gobbler survey was conducted jointly by the WRS and the West Virginia Chapter of the 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 99 boars during the 2015 season. West Virginia hasn't seen a harvest this high since 1997 when 141 boars were taken. This year in the southern coal fields, acorns were very sparse but hickory and beech hit fairly well. With poor mast conditions boars traveled to find food and then concentrated around those locations. This factor, along with the good reproduction from last year, contributed to the high success hunters had in the fall. Firearm hunters took 31 boars (17 in Logan County and 14 in Boone County) and archers harvested 68 (37 in Logan County, 31 in Boone County). Raleigh and Wyoming County had no reported kills.

Annual Mast Survey

Annually during August, WVDNR cooperating personnel 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 also is an important tool to forecast the annual big game harvests.

Compared to the 2014 survey, the mast index for all species combined was up slightly. Last year beech, hickory and walnut were scarce while oaks were abundant. This year, indices for oaks were down and indices for beech, walnut and hickories were up. Indices for all oak species decreased more than 50 percent, indicating a substantial decrease in oak production. Scarlet oak decreased 76 percent compared to 2014. White, chestnut, black, red and scarlet oaks should be scarce across the landscape. Statewide, beech did great with a 234 percent increase compared to the poor crop in 2014. Walnut and hickory followed a similar trend as beech, with increased production of nuts. Walnut and hickory increased 38 percent and 119 percent, respectively.

For soft mast, apple was clearly abundant across the state and was 38 percent above the index for 2014. Hawthorn, crabapple and grape were noticeably higher with percent increases of 50, 24, 34, respectively above 2014 values. Sassafras increased 16 percent. Dogwood and black cherry were the only soft mast that decreased from 2014.

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 enhance 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.

2015–2016 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 2015-2016, coldwater hatcheries in West Virginia stocked 1,377,451 trout weighing 844,610 pounds. The trout stocking season yielded the largest hatchery production and the most pounds of trout stocked in the history of West Virginia trout stocking. These trout were distributed to 71 impoundments, eight reservoir tailwaters, and numerous locations on 116 different streams and stream segments. Annual trout stocking distribution typically includes approximately 1,500 individual stocking runs annually.

The average size of trout stocked into put-and-take managed waters in 2015-2016 were 12.5 inches 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 reduces fish crowding and resulted in good growth rates.

The federal hatchery at White Sulphur Springs provided 3,567 pounds of trout during 2015-2016. The pounds of trout provided were less than previous years from this facility. Trout available from White Sulphur Springs Hatchery varies annually due to changes in facility operations.

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 other Class Q locations.

Thirty-five waters received two stockings each during a two-week period in October. The 2015 fall stocking totaled 43,945 pounds. This poundage is more than originally proposed for the 2015 fall stocking season due to surplus fish from the White Sulphur Springs hatchery. 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. These streams will not typically support adequate natural trout reproduction. In 2015-2016, 205,773 fingerling trout were stocked in waters throughout the state. Assistance from various non-governmental organization groups and volunteers are an essential part of the fingerling trout stocking program. Surplus rainbow fingerlings were stocked in Stephens Lake of Raleigh County in an attempt to establish a two-story fishery. A total of 66,882 surplus rainbow and golden trout were stocked during 2016. The wild trout program provides anglers with year-round recreational opportunities in areas of West Virginia previously lacking such opportunities.

Warmwater Hatcheries

Warmwater hatcheries produced blue catfish, channel catfish, muskellunge, striped bass, hybrid striped bass, and walleye during FY 2015-2016. A total of 496,500 fish were produced and stocked at various locations throughout the state. The warmwater hatcheries produce and stock fry, fingerlings, and advanced fingerlings which have been documented to achieve a higher survival rate after stocking.

Blue Catfish

More than 196,000 blue catfish fingerlings were stocked into the Kanawha and Ohio rivers and R.D. Bailey Reservoir.

Channel Catfish

More than 74,000 channel catfish fingerlings were reared at Palestine and Apple Grove hatcheries and were stocked into 32 waters. More than 29,000 advanced fingerlings were stocked into 23 waters throughout the state and included Anawalt, Berwind, Camp Caesar, Chief Cornstalk, Chief Logan, Coonskin, Hurricane, Indian Rocks, Krodel, Laurel, Lick Creek, Logan County Airport, McClintic, Millers Fork, Mountwood, Pennsboro, Pettigrew, Rockhouse, Tomlinson Run, Tracy, Turkey Run, Wirt County Farm, and Watoga lakes and ponds.

Approximately 1,500 pounds of catchable-size channel catfish were stocked into seven waters in 2016 to provide enhanced family recreational fishing opportunities at community and state park lakes. Catchable channel catfish were stocked at Cacapon, Cedar Creek, Chief Logan, Little Beaver, Pipestem, Tomlinson Run, and Rockhouse lakes.

Hybrid Striped Bass

More than 209,000 hybrid striped bass fingerlings were released into the Monongahela and Ohio rivers and into Bluestone and R.D. Bailey lakes. Hybrids over five pounds are regularly being caught from stocked waters. The New and Kanawha rivers also are providing excellent opportunities to land trophy hybrids.

Muskellunge

Approximately 1,459 advanced fingerling muskies were stocked into North Bend, East Lynn, Woodrum and Stonewall Jackson Lake Reservoir.

Striped Bass

More than 10,500 striped bass fingerlings were stocked into Bluestone Reservoir, Mount Storm Lake and the Kanawha and Ohio rivers.

Walleye

More than 3,800 eastern highlands strain, advanced walleye fingerlings, were stocked into the Ohio, Kanawha, Greenbrier, and New rivers, and Charles Fork and Dog Run lakes. The walleye stocking program is designed to establish reproducing walleye populations in suitable waters throughout the state. Research efforts continue to investigate the eastern highlands walleye strain and enhance native walleye populations.

Hatchery Improvements

Hatchery renovation plans are being developed with a contractor to address a number of priority operational issues, including water supply and treatment, water quality monitoring, and fish rearing pond liner replacement. Improvements are needed to maintain fish production levels. These plans are the result of recommendations through a statewide hatchery study. Specifications for pond liners at Apple Grove and a new water supply pump were prepared in 2016.





FISHERIES SURVEY PROJECTS

Reservoir Management

Fishery surveys were conducted on nine large reservoirs in the state. Surveys focused on black bass at Beech Fork, Bluestone, Burnsville, Cheat, East Lynn, Jennings Randolph, Mount Storm, Stonecoal and Stonewall Jackson lakes. Walleye population assessments were conducted at Summersville and Tygart lakes to better understand growth and size structure of this popular species. These inventories provide the basis for determining management needs and evaluating management measures. Annual operational changes 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 during such operational changes. Information upon which to base these fish and wildlife considerations is available as a result of the section's reservoir monitoring program.

River, Stream and Lake Research and Surveys

Stream and lake fisheries management activities continued in 2015. Key projects included: population characteristic assessments for channel catfish in the South Branch of the Potomac River; wild brook trout in six watersheds; and native walleye in the New River. Other fisheries assessments included: movement of trout in Stephens Lake and walleye in the New River; and an assessment of watershed biotic characteristics in the Little Kanawha River.

Fish Health Surveys

Fish health assessments are increasingly important components of fisheries management. Fish health surveys were conducted on the Kanawha and Ohio rivers for samples of black bass, sauger, walleye and yellow perch. Largemouth bass virus was not detected in black bass collected from these pools in 2015. Largemouth bass virus was detected at Elk Fork, North Bend, Summersville, Tygart and Upper Mud lakes in 2015.

Ohio River Coordination

Fish management staff coordinated and participated in a number of research and management activities on the Ohio River. These efforts include population assessments of flathead catfish, black bass and sauger. Much of this work is guided by multiple state needs and interests through the interstate Ohio River Fish Management Team. Fishery 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 2016 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 Enhancement

Fisheries management staff continued habitat enhancement projects in 2015. These projects included the long-running and successful fish attractor project utilizing recycled Christmas trees at Beech Fork, East Lynn, Stonewall Jackson, Sutton and Tygart lakes. Many of these activities were in cooperation with local fishing organizations, the West Virginia Department of Environmental Protection's Rehabilitation Environmental Action Plan and U.S. Army Corps of Engineers.

Fishing Tournament Coordination

More than 700 fishing tournament days were permitted in 2015. These occurred on more than 30 lakes and rivers.

Trophy Fish Citation Program

The Trophy Fish Citation Program recognized anglers who caught 493 fish, representing 27 species that qualified as trophies in 2015. Of 15 waters (private lakes are counted as one water) yielding 10 or more fish citations, 75 percent were from streams and rivers, 14 percent from private lakes and ponds and 11 percent from large public lakes. The Trophy Citation Program began in 1976 and has recognized 59,499 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 2015, 215 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 online 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 at: www.wvdnr.gov/Fishing/First_Fish.shtm

Fish Kills

The WVDNR requested financial reimbursement from responsible agents for one fish kill in 2015 (see following table).

Stream or Lake	Date	Cause	Fish Killed		Severity	
			Number	% Game	Miles	Degree
Brushy Fork	8/27/2015	Crude Oil	990	2.73	0.25	Heavy

2015-16 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
Bowden	4,070	2,137			1,125	730			5,195	2,867
Edray	3,800	1,900					3,300	14,000	7,100	15,900
Petersburg	12,410	17,131	50	105					12,460	17,236
Reeds Creek	6,500	5,790							6,500	5,790
Ridge									0	0
Spring Run	7,400	12,149							7,400	12,149
Tate Lohr	3,250	6,398							3,250	6,398
White Sulphur Springs*	2,040	2,139							2,040	2,139
Sub-Total	39,470	47,644	50	105	1,125	730	3,300	14,000	43,945	62,479
Spring 2016	Weight	Number	Weight	Number	Weight	Number	Weight	Number	Weight	Number
Bowden	166,778	283,514	12,038	34,378	36,476	48,739	16,836	45,163	232,128	411,794
Edray	36,950	64,191	5,824	7,465	2,856	6,560	5,936	111,676	51,566	189,892
Petersburg	26,051	60,622	1,198	1,065					27,249	61,687
Reeds Creek	159,496	235,182	4,875	6,668	29,122	42,158	5,964	7,393	199,457	291,401
Ridge	32,993	43,693	1,524	2,109	22,662	30,844			57,179	76,646
Spring Run	157,196	179,637	14,349	16,132	29,468	33,407	11,657	16,823	212,670	245,999
Tate Lohr	17,801	34,820	1,088	2,141					18,889	36,961
White Sulphur Springs*	1,527	592							1,527	592
Sub-Total	598,792	902,251	40,896	69,958	120,584	161,708	40,393	181,055	800,665	1,314,972
TOTAL	1,629,598	2,423,239	110,650	175,496	325,276	436,385	104,343	498,002	2,169,867	3,533,122

*Federal Hatchery

2015–2016 Warmwater Stocking

Species and Hatchery/Source	Number	Size	Location
Blue Catfish	196,764	fg	R.D. Bailey Reservoir; Kanawha and Ohio rivers
Channel Catfish	1,500	ad	Cacapon Lake, Cedar Creek Lake, Chief Logan Lake, Little Beaver Lake, Pipestem Lake, Tomlinson Run SP Lake, Rockhouse Pond
Channel Catfish	45,378	fg	Airport Lake, Big Ditch Lake, Charles Fork Lake, Conaway Run Lake, North Bend SP Lake, Pipestem Lake, Stonewall Jackson Reservoir, Tuckahoe Lake, Wallback 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.
Hybrid Striped Bass	209,132	fg	Bluestone and R. D. Bailey lakes; Monongahela and Ohio rivers
Muskellunge	1,459	af	North Bend Lake, East Lynn Lake, Woodrum Lake and Stonewall Jackson Reservoir
Striped Bass	10,594	fg	Bluestone Reservoir, Mount Storm Lake and the Kanawha and Ohio rivers.
Walleye	3,843	af	Charles Fork Lake, Dog Run Lake, Kanawha River, Greenbrier River, New River, Ohio River
		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 Wildlife Resources Section staff constructed 100 American kestrel nest boxes in 2013 for deployment in suitable habitat in the north/central region of the state. Staff and volunteers continued to deploy and monitor nest boxes in 2016.

American Woodcock

American woodcock is an upland game species associated with wet meadows and early successional habitats. In West Virginia, and the eastern region as a whole, this species has been declining at a steady rate of 1.1 percent per year since 1968. As part of the USFWS American woodcock singing ground survey, WVDNR staff and partners ran 19 (vs. 24 in 2015) routes statewide and detected 19 (vs. 16 in 2015) birds, for an average of 1 male/route (vs. 0.67 in 2015). This is an improvement over 2015, which hierarchical models suggest was the lowest since the survey began (American woodcock population status, 2015, USFWS).

Bald Eagle

Staff and volunteers monitored 62 (vs. 56 in 2015) bald eagle nest sites in 2016 in Berkeley, Brooke, Cabell, Fayette, Gilmer, Grant, Greenbrier, Hampshire, Hancock, Hardy, Jackson, Jefferson, Mineral, Monongalia, Morgan, Pendleton, Pocahontas, Raleigh, Summers, Taylor, Tucker, Tyler and Wood counties. Due to continued increases in the number of nests, WVDNR staff and volunteers are generally now monitoring nests once per breeding season to assess activity and productivity. Eight new nests were documented in 2016 (vs. 7 in 2015) in Fayette, Greenbrier, Hampshire, Hardy, and Monroe counties. Of the 62 nests monitored, 50 were active (vs. 45 in 2015) and an additional six sites were uncertain due to various causes. These include inactive nests but with adults present in the area, or recently active nests that were not monitored due to various constraints.

Of the 50 active nests, 33 fledged at least one young (vs. 26 in 2014), 22 nests produced two young, two nests produced three young, one nest failed (vs. four in 2015), and 14 were monitored during incubation and/or brooding and we were not able to assess productivity (vs. 14 in 2015). There were numerous reports in 2016 of non-breeding birds statewide. The 11th southern West Virginia winter eagle survey was held Jan. 9, 2015, and 33 bald eagles (vs. 56 in 2015) of various ages were located. Specifically: 13 adult, five first year, 11 second year, and four third year. The Ohio River Islands NWR winter bald eagle survey on January 7, 2016, detected 13 eagles (vs. 8 in 2015): seven were adults and six immatures.

Bald eagles continue to recover, and recent breeding season observations in the Elk, Tug, Little Kanawha, Greenbrier, Bluestone, and New River watersheds as well as along the Ohio River 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 the 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 2nd WV 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. A single active colony was confirmed in Mason County in 2016 at a sand and gravel quarry. This colony has been active for 20 years, and contained 40 active nests in 2016. The colony active in Putnam County in 2015 was inactive in 2016. Scattered breeding season reports of small numbers of birds, but no located colonies, were noted in Jefferson, Berkeley, Kanawha, and Preston counties.

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. In 2016, barn owls were observed in a WVDNR nest box at one site in Wood County. A new nest site was located in a silo in Mineral County, where seven young were observed. Additional evidence includes a bird observed near Moorefield.

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. In light of a declining and aging birding community statewide, WVDNR staff assumed these duties in 2015 in an effort to increase volunteer participation and the total number of routes surveyed annually. In 2015, 45 routes were surveyed. This number was increased to 46 in 2016. In 2017, staff will attempt to increase this number to 50. WVDNR staff participated directly in surveying 12 routes in 2016 (vs. 7 in 2015).

Cerulean Warbler

Cerulean warbler is a bird of extensive mature, structurally complex forests. In West Virginia, this species is widespread but declining at an annual rate of 2.25 percent since 1966. Despite this decline, it is estimated that West Virginia houses 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. WVDNR staff participated/presented at a management workshop in October, 2015. The 3-day workshop concluded with field visits to nearby sites where cerulean warbler and other species occur. A full-time state coordinator position has been created to implement the project in West Virginia for the 5-year grant term. Additionally, a NRCS/WVDNR partner biologist was hired to assist the state coordinator:





Chimney Swift

Staff is working with Shepherd University staff to mitigate the planned demolition of one of the largest swift roosts in the state. Mitigation will possibly involve construction of a new tower nearby and the uncapping of chimneys on campus.

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 BBS or Breeding Bird Atlas projects. In 2013, WVDNR staff attempted to increase coverage for this species by distributing a news release to outlets statewide. It was met with huge success, and continued in 2014, 2015 and 2016. Hundreds of reports were received by staff in 2016. Reports will not be solicited in 2017. In coming years, the Nightjar Survey Network protocol will be expanded 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. The mountain counties have the highest densities and occur with the highest frequency. Four golden eagles were detected during the southern West Virginia winter eagle survey, and none were detected during the winter survey. In winter 2015/2016, staff and partners monitored bait sites at eight locations statewide as part of a larger regional study of eastern golden eagle demographics and migration.

Additionally, staff worked with partners on identifying winter roost trees and quantified site characteristics and microhabitat. WVDNR and U.S. Forest Service (USFS) staff visited 14 roost sites in the Greenbrier Ranger District, Beaver Dam WMA, Blackwater WMA, and Otter Creek WMA. Roost tree species included Northern red oak, chestnut, sugar maple, yellow birch, black cherry, and red spruce. Oaks comprised the majority.

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 2016, staff managed four active contracts on properties totaling 87.5 acres in Monroe and Preston counties and currently managing three active applications in Greenbrier, Monroe and Summers counties that will be carried over into 2017.

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 in 2016 in Grant, Greenbrier, Hardy, Jefferson, Monroe, Pendleton and Pocahontas counties. During breeding season, shrikes were observed at nine of these sites (vs. eight in 2015), all in the Greenbrier Valley. Breeding pairs were located at eight of these sites, and follow-up visits found fledged young at three. Additional credible reports were received of individual wintering shrikes in Grant and Hardy counties.

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 this species between partners. In fall 2015, staff co-led a formal working group meeting as part of the SE/NE Partners in Flight Conference in Lafayette, Louisiana, and provided training on safe trapping and banding methods. In winter 2016, a working group meeting was held at the Smithsonian Conservation Biology Institute in Front Royal, Virginia.

Staff from WVDNR and the Virginia Department of Game and Inland Fisheries (VADGIF) partnered in fall/winter 2015 and winter/spring/summer 2016 in West Virginia and Virginia on trapping and banding shrikes. As part of this effort, seven shrikes were located and trapped/banded in West Virginia during the 2016 breeding season. 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 26. Staff will continue to trap unbanded birds in 2017 as part of an international partnership across eastern states and Canada.

Northern Goshawk

Staff worked with Monongahela National Forest staff on 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 U.S. Fish and Wildlife Service staff in completing transect surveys and monitoring historical breeding sites within the project area. Several goshawk reports have been received since fall 2015, none of which were during breeding season and all of which were likely migrants. However, detection probability is very low for this secretive species that prefers dense, mature high elevation forests. West Virginia likely has a small breeding population, but intensive surveys will be required to confirm this.

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 (NWR) in 2012. Monitoring in 2013, 2014 and 2015 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 2016 breeding season territorial interactions between two male harriers was observed on refuge property.

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 WV Breeding Bird Atlas 2 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.

In 2015, WVDNR initiated a 2-year research effort to better delineate distribution and habitat for the species using playback and modeling. Results for the breeding season survey in 2015:

- 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.





In 2016, year two of this project noted the following:

- Researchers attempted to capture Northern Saw-Whet Owls (NSWOs) at 60 sites in Tucker, Randolph and Pocahontas counties using two mist nets and playing their call for about an hour at each site.
- Of the 60 sites, 53 of them were surveyed for the presence of NSWOs last year, and seven were not surveyed (e.g., new sites).
- Overall, birds were detected at 24 of the 60 sites, and 17 were captured.
- Birds were assessed for age, sex, fitness, and samples were collected for stable isotope analysis, results pending.

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 the red spruce forest in West Virginia. This species is in steep decline, and causes are poorly understood.

During the first WV Breeding Bird Atlas (completed in 1989), this 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 coming years, additional sites should be monitored, including blister run swamp and other bog habitats with scattered tall conifers and snags.

Osprey

In 2016, staff documented new nests along/near the Ohio and Kanawha rivers, as well as four active nests at Stonewall Jackson Lake. New nests are being constructed on artificial structures such as cell and radio 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 2016 breeding season, WVDNR staff and volunteers detected peregrines at sites in Berkeley, Fayette, Mason, Monongalia, Ohio, Wetzel, and Wood counties. A suspected new nest site in Berkeley County on a tower at a gravel quarry will be investigated in 2017. Outside of breeding season, falcons were observed in the Ohio, Kanawha, New, and Potomac watersheds.

Rails and Bitterns

Sora, Virginia rail and least bittern were all documented during the 2016 breeding season at Greenbottom WMA. This was the only breeding location reported for this year. American bitterns were detected during breeding season at Canaan Valley National Wildlife Refuge. In coming years, a secretive marsh bird monitoring program will be initiated to better document true occurrence for these species in the state.

Rusty Blackbird

Perhaps no North American songbird has declined as steeply as the rusty blackbird. In the past 50 years, populations have declined by more than 90 percent. Causes for this decline are poorly understood. This species breeds in boreal bogs and winters in the southern U.S.

In West Virginia, rusty blackbird is a local and rare winter resident and more commonly seen during fall and spring migration. WVDNR staff and volunteers participated in the annual Rusty Blackbird Spring Migration Blitz in March 2016.

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. 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 January 2016 in Jefferson, Mineral and Pocahontas counties. Additionally, on June 1, 2016, a crane was observed in a yard in downtown Franklin, Pendleton County. The bird was consuming seed from a feeder.

Upland Sandpiper

Staff monitored a site (active in 2012) near Cabins, West Virginia, in Grant County during the 2016 breeding season. No birds were detected. As with loggerhead shrike, roadside bias likely limits detection of this species.

WV Breeding Bird Atlas 2

The final field season of the six-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 upcoming book.

Winter Bird Count

The survey was continued, and fall 2016 marks the beginning of the 28th year of the count. More than 100 tally forms were received from participants statewide.

Butterflies

WV Butterfly Atlas

Work continued on the WV Butterfly Atlas with 2016 being the last year of field work. Wildlife Diversity Unit staff conducted two formal trainings and several one-on-one trainings in the spring for people interested in participating, putting the total number of trained volunteers at 101 and cooperators at 20. Participants submitted specimens or photographs of 82 species (1150 vouchers) of butterflies and 19 species of targeted moths (55 vouchers). This effort resulted in 113 new county records, and 125 updated historic county records for the 2015 field season; so far the total county records for the atlas is 385, and updated historic county records is 1043.

All vouchers from the 2015 data season were entered into a database. Locations and coordinates were confirmed or generated, and identifications were made and confirmed if needed by experts. A spring newsletter was written and distributed to participants and other interested parties that included sampling priorities for the 2016 field season. All participants received copies of their data and additional materials for the 2016 field season if needed.

Wildlife Diversity Unit staff coordinated with the Monongahela National Forest (White Sulphur Springs District) on management and conservation of Appalachian Grizzled Skipper (*Pyrgus centaureae wyandot*) that occurs on the forest, currently the only known population in the state. Wildlife Diversity Unit staff participated in a bio-blitz held at Harpers Ferry National Historic Park in honor of the National Park centennial.





WV Wetland Butterfly Grant

Along with three other states (Maryland, New Jersey, and Pennsylvania), West Virginia is participating in a federal Regional Conservation Needs grant focusing on the occurrence and habitat of wetland obligate butterflies. Wildlife Diversity Unit staff recruited volunteers, determined priority sampling sites, and generated resources to aid volunteers and staff. Wildlife Diversity staff coordinated with the lead agency (Maryland DNR) on financial and project reporting, data sharing, and participant resources. Staff and volunteers surveyed 14 sites for target butterflies and appropriate habitat.

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. As of June 2015, there were 26 long-term monitoring sites. Some of these sites are also designated as restoration sites as described below. Four long-term monitoring sites were reassessed and two new sites were established during FY2015/2016. The reassessed sites included the Kanawha River at Kanawha Falls, Cacapon River at Bradfield's Farm, Elk River at Queen Shoals, and South Fork Potts Creek. New sites established were on the Ohio River at RM 284 in the Greenup Pool and Middle Island Creek at Falls Mills (#2). 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 untagged live mussels are tagged. The three random start systematic sampling (3RS) method is also used at some sites. This method consists of excavating substrate samples within 0.25m² 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. Table 1 provides an overall view of endangered species restoration in West Virginia. 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 long-term monitoring site at Kanawha Falls was established in 2005. This site consists of a 25 by 25 meter M/R. A total of 425m² of the possible 625m² area was able to be surveyed during a week in August 2015. A total of 3,784 live mussels of 29 species including four federally endangered species were observed. Overall tag recovery was estimated at approximately 40 percent. Percent tag recovery greatly varies by species ranging from 54.6 percent to 16.5 percent for the six most abundant species. The overall mussel density was estimated at 8 mussels/m². Previous density estimates have ranged from 7 to 9 mussels/m². Substrate characterization was assessed and habitat appeared unchanged since the previous survey in 2010. Federally endangered Fanshell restoration/augmentation was initiated here in 2010. The uniquely tagged mussels have been monitored four of the past five years. Only three individuals have confirmed mortality over the 5-year period. While eight individuals were

Table 1. Overview of federally endangered mussel restoration in West Virginia. Source populations include the Allegheny River and its tributaries PA (AR), Licking River KY (LR), and the Tennessee River TN (TN).

Stream	Restoration Location	<i>Cyprogenia stegaria</i>	<i>Epioblasma t. rangiana</i>	<i>Lampsilis abrupta</i>	<i>Pleurobema clava</i>	<i>Villosa fabalis</i>
Elk River	Queen Shoals		AR 2012			AR 2006
Kanawha River	Kanawha Falls	LR 2010	AR 2014			
Little Kanawha River	Annamoriah				AR 2013	
Middle Island Creek	Falls Mills				AR 2014	
Ohio River	Muskingum Island	LR 2010	AR 2014	TN 2013	AR 2013	
Ohio River	Buckley Island		AR 2014		AR 2014	
Ohio River	RM 284		AR 2014		AR 2013	

observed in year 5 that had not been seen since stocking, only 13 have not been seen since stocking. Rate of detection per year ranges from 51 percent to 63 percent.

Federally endangered Northern Riffleshell mussel restoration was initiated in 2012 with the first stocking in the Elk River at Queen Shoals long-term monitoring site. Since that time, several stocking events have occurred and have also included the federally endangered Rayed Bean. Otter predation at the site threatens to jeopardize restoration efforts as well as the resident mussel population. This site was monitored in 2015 with subsequent pit-tag assessment being conducted in April 2016. The long-term monitoring site was established in 2005. It consists of an approximate 1400m² M/R survey area. A total of 1631 mussels of 24 species were observed in September 2015. Two federally endangered species were found here in 2005 prior to stocking of the Rayed Bean and the Northern Riffleshell. The bed density estimate has declined from 2.0 mussels/m² in 2005 to 1.2 mussels/m² in 2015. Estimated rate of recapture was 31.6 percent. The decline in bed density is most likely related to otter predation. Numerous crushed shells have been observed since stocking of the Riffleshell began in 2012. The Riffleshell and Kidneyshell mussels appear to be the most susceptible species to this predation. Substrate characterization was assessed and habitat appears to be becoming more embedded with sand overtime.

A 3RS monitoring was conducted on the Little Kanawha at Annamoriah in July 2014, and a mussel density of 1.8 mussels/m² was observed. Fifteen species are known to occur at this site including the federally endangered Snuffbox. A pilot re-introduction site for Clubshell was established here in August 2013. It was monitored in July 2014, and again in August 2015. The Clubshell appear to be doing well as no mortality was observed. An additional 355 Clubshell were stocked at this location in September 2015.

The Northern Riffleshell and Clubshell pilot sites at Buckley Island were established in September 2014 and assessed in July 2015. No mortality was observed. An additional stocking effort of both species consisting of nearly 1,300 mussels was conducted here in August 2015.

The Clubshell pilot site was established at Muskingum Island in August 2013, followed by the Northern Riffleshell site in July 2014. No mortality was observed on subsequent assessments (July 2014 and July 2015 respectively). An additional 1500 mussels made up of both species were stocked here in September and October 2015, some of which were propagated juveniles of Northern Riffleshell by



White Sulphur Springs National Fish Hatchery (WSS). The Clubshell pilot site was established at Ohio River Mile 284 in August 2013 and assessed in July 2014. The Northern Riffleshell site was established in September 2014 and assessed in July 2015. Both appear to be doing well with no mortality observed. In September 2015, more than 1,500 individuals representing both species were stocked in the area.

The pilot site for re-introduction of Clubshell mussels to Middle Island Creek at Falls Mills was established in 2014. The resident mussel population of this 25m² area was further assessed in June 2015 by conducting a M/R effort within the pilot introduction grid. Natural mussel density of this area was estimated at 4.4 mussels/m² (14 live species) without the augmentation of Clubshell mussels. To date, two of the Clubshell have been observed fresh dead most likely due to predation as evidenced by crushed shells. In August 2015, an additional 470 Clubshell were stocked around the pilot introduction site.

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 U.S. Fish and Wildlife Service, time was spent collecting mussel broodstock for propagation. These animals are distributed to cooperators including White Sulphur Springs Fish Hatchery, Tennessee Tech University (TTU), Kentucky Department of Fish and Game, Genoa National Fish Hatchery (GNFH), and Ohio State University. 2013 marked the first stocking of the federally endangered Pink Mucket with more than 400 being stocked at Muskingum Island. An additional 250 juveniles were stocked in 2014, at which time two individuals from the 2013 stocking were observed. An additional 300 were stocked in 2015. The Pink Muckets were propagated by TTU.

In June 2015, a long-term monitoring site was established on the Cacapon River at Great Cacapon. A 5m by 5m 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 will be monitored in the future by the class with data provided to the WVDNR. In August 2015, assistance was provided for the class exercise. Seven live species were represented with density estimates of 5.4 to 7.0 mussels/m².

In August 2015, the long-term monitoring site on the Cacapon River at Bradfield's farm near Wardensville was surveyed. Data showed a 39 percent decline in mussel density and an increase in mortality since the previous survey in 2005. Percent tag recovery has decreased by 50 percent over the past five years. Unlike many of our other M/R sites, this reduction appears to be greatly related to emigration of tagged mussels from the site. Typically mussels stay within the area but additional qualitative surveys downstream of the monitoring site produced 125 tagged mussels. Additionally, one tagged individual was found more than 0.5km downstream. This site was also previously impacted by Corridor H construction. One species has all but disappeared from the site. On a good note, six live Triangle Floaters, a Species of Greatest Conservation Need (SGCN) Priority 1 species, were observed which had not been previously collected at this site.

A mussel relocation effort was conducted on the Little Kanawha River downstream of North Bend Dam in September to provide clearance for bank stabilization efforts to be conducted by Natural Resources Conservation Service.

On February 16, 2015, a CSX train derailed along the Kanawha River at River Mile 88.6. In September 2015, Mussel Program staff oversaw mussel survey efforts that were conducted by a private contractor to determine if any impacts resulted from either the spill of tanker material or being crushed by the barges run aground at the site to assist in cleanup and site remediation. The low density, diversity, mussel bed did not appear to be impacted.

Mussel Program staff assisted with mussel surveys on the West Fork River in August and September 2015, in preparation for removal of three dams. All survey efforts (WVDNR, FWS, and AllStar Ecology) produced nine live species of mussels, including the federally endangered Snuffbox, residing within the area of the three dams. Two of three dams were removed in May and June 2016, and staff assisted with mussel salvage efforts as the water levels were lowered.

The Mussel Program continues to cooperate with the WVDNR in monitoring of federally endangered species relocated from bridge projects. The FWS requires these mussels to be monitored for three years. The third year of monitoring was completed in September 2015, for two Clubshell relocated from the Gassaway Bridge on the Elk River and possession was taken of six Snuffbox which were relocated to Falls Mills from the Shiloh Bridge replacement project on Middle Island Creek. They were placed within the Clubshell pilot re-introduction site noted above.

In 2002, a water quality and mussel survey was conducted on the Monongahela (Mon) River. In 2006 and 2007, mussels salvaged from bridge demolition projects on the Allegheny River in PA provided mussels for restoration efforts at two sites on the Mon. Most of these individuals were Mucketts. In October 2013, more than 2,000 additional mucketts were salvaged from a bridge demolition project on the New River and added to the above restoration sites. In August 2016, an assessment of both restoration sites indicated continued limited natural recruitment as noted in previous assessments. Tagged animals stocked for the project are surviving and mortality appears to be within normal limits. No new species were observed in 2016. Evidence of historical beds is still indicated by weathered dead mussels observed.

In September 2015, a mussel survey/relocation effort was conducted to ensure no mussels were impacted by the construction of the new boating access site at Palatine Park, on the Mon River in Fairmont. In June 2016, monitoring was conducted on South Fork Potts Creek. This is a small tributary within the James River Basin, Monroe County and home to the federally endangered James Spiny mussel. This population has been monitored since 1984, mostly by the USFWS and assisted by WVDNR. In 2016, the Mussel Program took the lead in the monitoring effort, assisted by USFWS and volunteers. The population continues to survive with minimal mortality. In 2015, the landowner, in cooperation with the West Virginia Conservation Agency (WVCA), installed fencing along the entire length of the Furrow property to keep cattle out of the stream except for limited flash grazing. This section of stream contains the best known population of James Spiny mussel in West Virginia.

In May 2016, assistance was provided to WVDEP in conducting a mussel survey on the Kanawha River in Charleston for the Sanitary Board. One individual of the federally endangered Snuffbox mussel was observed.

Additional mussel surveys were conducted on the following streams: Little Kanawha River, Middle Island Creek, Arnold Creek, Worthington Creek, and Buffalo Creek.

In June 2016, Mussel Program staff assisted the U.S. Fish and Wildlife Service with the collection of mussel tissue from the Hannibal Pool of the Ohio River as part of a mercury study being conducted by the U.S. Environmental Protection Agency (USEPA).

In 2016, we began a cooperative project with USEPA 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 Species of Greatest Conservation Need (SGCN).





NATURAL HERITAGE PROGRAM

Ecology

The Ecology group continued work to characterize, classify, map, and protect the natural terrestrial habitats in West Virginia. Habitats are classified by the vegetation, or plant communities, that characterize a site.

During the fiscal year, WVDNR ecologists sampled 64 vegetation plots, concentrating on poorly sampled areas and poorly sampled habitats throughout the state. Our database now includes more than 4,570 vegetation plots well distributed across the state's geography and ecosystems. They form a strong foundation for completing a vegetation classification for the state.

Plot data from lithomorphic habitats (cliffs, outcrops, boulder fields) collected over the past few years were analyzed using multivariate ordination and clustering techniques. Plots were assigned to 10 Associations in the U.S. National Vegetation Classification (USNVC).

Progress on a statewide vegetation classification was highlighted by the official release of the USNVC in February 2016. With this release, public databases (<http://usnvc.org/explore-classification/> and <http://explorer.natureserve.org/>) were updated to reflect recent changes in known West Virginia distribution of associations that we reported to NatureServe in 2015. One hundred seventy-two associations are verified in the state by our plot records or other authoritative evidence. Seventeen associations are probable in the state, but have not yet been documented. Twenty-five associations are possible, but not documented.

As the development of a West Virginia vegetation classification reaches maturity, work has shifted towards documenting occurrences of rare and exemplary occurrences of associations in the state. Two hundred sixty-one association occurrences were added to the Biotics database maintained by the Natural Heritage Program.

A new series of web pages, Wild Vegetation of West Virginia, was initiated to serve as a guide to the state's natural habitats, each page covering a different natural group. 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 three natural groups (Upland Red Spruce Forests and Woodlands, Shale Barrens, and Bottomland Oak Swamps) are fully developed and up on the WVDNR Wildlife Resources website (wvdnr.gov/Wildlife/Factsheets/).

Ecology staff also made significant contributions to the knowledge of plant species in West Virginia. Numerous rare plant species were documented by vegetation surveys and information on 166 rare plant occurrences were added to the Biotics database maintained by the Natural Heritage Program. A journal article documenting, for the first time, the North American distribution of *Juniperus communis* var. *communis* (common juniper) based in part on DNA evidence from West Virginia populations was coauthored (www.juniperus.org/uploads/2/2/6/3/22639912/356_-_2016_phyto_98_1_8-16adams_et_al_communis_trees_in_ne_us_rev_10-21-15.pdf). We documented the first known West Virginia occurrence of *Eutrochium steelii* (Steele's eupatorium) on East River Mountain in Mercer County. Field studies on the rare shrub *Paxistima canbyi* (Canby's mountain lover), collecting leaf material from several populations for a regional population genetics study and assessing damage to

the species from herbivory by white-tailed deer and infestation by a non-native insect scale pest. Field surveys were conducted for *Viola appalachensis* (Appalachian blue violet), locating new occurrences and documenting many misidentifications from the 1990s. Pressed and dried plant specimens collected over more than a decade for vegetation surveys were inventoried, labeled, and processed for curation in herbaria; 425 specimens were donated to the herbarium of West Virginia University, 198 specimens were donated to the herbarium of the New York Botanical Garden, and 345 specimens were mounted (with assistance of a Master naturalist volunteer) and deposited in the WVDNR Natural Heritage Program herbarium in Elkins. As usual, numerous requests, were responded to, 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 included participation in the Central Appalachian Spruce Restoration Initiative and the Potomac Highlands Cooperative Weed and Pest Management Area; acting as Association of Fish and Wildlife Agencies West Virginia contact for plants regulated by the Convention on International Trade in Endangered Species of Wild Flora and Fauna; assisting Natural Resource Conservation Service soil scientists to develop Ecological Site Descriptions; reviewing units of the U.S. National Vegetation Classification in preparation for its beta-release; assisting a forestry consultant to identify and manage rare habitats on corporate timberlands in southern West Virginia for compliance with Forest Stewardship Council certification; assisting the U.S. Forest Service with collection of the rare shrub *Paxistima canbyi* (Canby's mountain lover) for a population genetics study; assisting the Canaan Valley National Wildlife Refuge with planning to conserve rare native plants along a pipeline right of way; reviewing and commenting on proposals submitted by the U.S. Forest Service; assisting the National Park Service to establish permanent monitoring transects in riverscour prairie habitats along the New River; and acting as quality assurance lab for plant identification for the National Wetlands Condition Assessment.

Ecology staff participated in numerous outreach and educational events including leading field trips for the Wildflower Pilgrimage and the Boy Scouts; teaching Master Naturalist classes on wildflowers and weeds; participating in National Hunting and Fishing Days and Forest Festival outreach activities; interviewing with writers of articles for *Wonderful West Virginia* magazine; consulting with graduate student and faculty researchers about research projects and study sites; and speaking about the Wild Vegetation of West Virginia to an international and regional audience at the Biodiversity Without Boundaries conference in San Juan, Puerto Rico.

Botany

Federally Listed Plants

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

Wildlife Diversity Unit 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. Wildlife Diversity staff investigated reports of new occurrences of listed plant species within proposed pipeline and powerline rights-of-way across the state.





Running buffalo clover (*Trifolium stoloniferum*) (RBC)

Five populations of RBC were reported to our office by consulting botanists who were working for various engineering and environmental review firms doing T&E species reviews.

Wildlife Diversity Unit personnel accompanied a representative of Brookfield Renewable Power to conduct a monitoring assessment of the Cotton Hill site of running buffalo clover on June 1, 2016. Sixty-two (62) rooted crowns were seen, compared to 50 rooted crowns seen 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.

Wildlife Diversity Unit personnel revisited 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, determine that thousands of rooted crowns occur within hawthorn thickets and woodlands where eight years ago, we had failed to find RBC. This sets the stage for a complete monitoring survey in 2017.

Wildlife Diversity Unit personnel revisited the Kelley Mountain Quarry site of RBC to complete a monitoring survey. Only 11 rooted crowns, none with flowers, were seen in three patches. 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 will occur in 2016, but that in the autumn, additional soil disturbance will be accomplished using fire rakes.

Shale Barren Rockcress (*Arabis serotina*) (SBRC)

Wildlife Diversity Unit personnel continue to consult with US Navy Information Operations Command personnel, and the personnel of the National Security Administration (NSA) regarding the management of the largest population in West Virginia of SBRC (Listed Endangered), located on the Little Fork Shale Barren. We continue to assist their personnel in the control of the invasive species Japanese stiltgrass above and below the Little Fork shale barren.

Harperella (*Harperella nodosum*; *Ptilimnium nodosum*) (HARP)

Over the past 10 years, Wildlife Diversity Unit personnel have documented the decline of harperella (Listed Endangered) on three streams in Morgan County (Cacapon River, Sleepy Creek, and Back Creek). Monitoring data indicates that sometimes dramatic changes in the structure of the streams is altering or removing the silt/sand/cobble bars that supports harperella in those streams, likely due to changes in the “flashiness” and intensity of floods, and perhaps the effects of freeze-thaw production of ice jams in winter months. Fortunately, HARP also thrives on cracks in bedrock, silt accumulations between boulders along the stream, and sometimes even clay banks along the streams. Limited success has been accomplished in attempts to transplant harperella plants in the rivers.

In 2016, Wildlife Diversity Unit staff monitored HARP populations on the Cacapon River, Back Creek, and Sleepy Creek in Morgan County and Berkeley County. While a new sub-population was discovered on Sleepy Creek in 2016, monitoring data indicates the overall populations continue to decline on all three streams.

Wildlife Diversity Unit staff collaborated with Dr. Brian Dickman, an engineer and hydrologist with WVU Institute of Technology, who is seeking to understand the hydroperiod of water flow within which HARP survives. His research intends to describe the impact of dramatic changes taking place on Sleepy

Creek that are removing large amounts of silt, sand, and gravel from sub-occurrences that have been relatively stable until recent years. Dr. Dickman installed equipment to measure changes in water flow and level on Sleepy Creek this summer, and continues to collect hydrological data.

Northeastern Bulrush (*Scirpus ancistrochaetus*) (NEBR)

The federally listed endangered plant species, Northeastern bulrush, occupies shallow ponds on sandstone ridges underlain with calcareous rock layers in the Eastern Panhandle of West Virginia. Wildlife Diversity Unit personnel conducted a monitoring survey of the Pond Run Pond occurrence on the George Washington/Jefferson National Forest in 2016. The population was found thriving, but it was discovered that the wetland has been invaded by the non-native invasive plant species, Japanese Stiltgrass (*Microstegium vimineum*), which is a serious threat to the population.

Wildlife Diversity Unit personnel also conducted a monitoring survey of the Willis Ridge Long Pond occurrence of NEBR on September 8, 2016, and found the occurrence had been severely disturbed by logging, and vehicle traffic through the wetland. Numerous small trees had been felled into the wetland, opening the site to increased sunlight. The wetland had largely dried up compared to the last prior visit, and NEBR was not observed in the wetland. NEBR 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 (*Isotria medeoloides*) (SWP)

The 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 August 2012, a consulting botanist discovered a new population of SWP in Randolph County on the property of the Monongahela National Forest and within the path of a segment of a planned federal highway.

Wildlife Diversity Unit staff revisited all three extant sites of SWP in Randolph County in June of 2016, and found the same number of plants present that were seen in 2015. Wildlife Diversity Unit botanical staff cooperated with Dr. Dennis Whigham and Dr. Melissa McCormick from the Smithsonian Environmental Research Center, continuing to assist them in their study of the ectomycorrhizal (fungi that invade roots of plants and share nutrients with the herbaceous plants and nearby trees) of this species. Severe damage to the SWP plants was discovered at one of the sites soon afterwards.

Throughout the summer of 2016, five new occurrences of SWP were discovered by consulting botanists and amateur botanists in Tucker County and Pocahontas County. Wildlife Diversity Unit staff supported consulting botanists working for pipeline companies, power line companies, and the West Virginia Department of Highways by confirming the identification of the species, providing input about potential impact of proposed projects, and to assist the Smithsonian researchers in their study of the biology of the threatened species. Wildlife Diversity Unit personnel are collaborating with personnel from U. S. Fish & Wildlife Service, the Natural Resource Conservation Service (NRCS), and the Monongahela National Forest to better define potential habitat for SWP using GIS and habitat modeling technology.

Virginia spiraea (*Spiraea virginiana*) (VS)

Monitoring surveys of Virginia spiraea (Listed Threatened) populations were conducted by Wildlife Diversity Unit personnel along Bluestone River in Mercer and Summers counties. Out of 36 previously known subpopulations along Bluestone River, 23 were revisited. Of the sites visited, 15 were found to no longer exist. One new small subpopulation was found during the surveys of known populations. In addition, collections of leaf material were made from all drainages in the state containing VS for use in a genetics study being conducted for the U.S. Fish and Wildlife Service. Samples were taken from Bluestone River, Meadow River, Greenbrier River, Gauley River, Dingess Fork, and Miller Camp Branch.





Maximum Entropy Habitat Modeling

With financial support from the U. S. Fish & Wildlife Service, WDU continues to work with Dr. Crystal Krause, an ecologist and GIS Analyst (Davis & Elkins College), to conduct habitat modeling using a program called Maximum Entropy. Dr. Krause, using data shared from Natural Heritage Programs from across the range of federally listed threatened or endangered plant species that occur in West Virginia, ran the complex computer models with the goal of producing results that may be used to predict the type of habitats and their locations throughout the range of each species.

Habitat models or species distribution models (SDMs) are of interest to the U. S. Fish & Wildlife Service, U.S.D.A. Forest Service, the Natural Resources Conservation Service (NRCS), and Nature Serve to better predict where to find the species. In this study we conducted SDM analysis of six federally listed endangered or threatened plant species of West Virginia and used the output to strategically design field surveys with the goal of locating new populations. 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.

Information Management

Scientific Collecting Permits

Staff issued 334 Scientific Collecting Permits for a variety of projects including threatened and endangered species monitoring and presence/absence surveys, graduate student research and stream monitoring. Fees for collecting permits during the fiscal year totaled \$38,450.

Data Requests

Staff responded in writing to 656 requests (table following) and many other requests by e-mail and telephone.

Type of request	Number
Coal Mining Lands inquiries	65
Abandoned Mine Land reviews	43
Natural gas projects	194
Division of Highways	182
Wind	1
Other	172
Total	656

Rare Species Database

Rare species and plant community data continue to be entered into the Biotics database with records for threatened and endangered species being the priority.

Aquatic Community Assessment and Restoration Program

Fishes

Wadeable stream and non-wadeable river boat/raft surveys continued to assess the status and distribution of West Virginia fishes pursuant to the Aquatic Community Assessment Program (ACARP). In summary, nearly 80 sampling efforts were completed during the 2015 collection season. The watersheds and the number of surveys conducted are as follows: Potomac River (9); Big Sandy River (1); Guyandotte River (1); lower Kanawha River (10); upper Kanawha or New River (14); Little Kanawha River (9); Monongahela River (27); Ohio River main channel (2) and minor tributaries (4). These tasks fulfilled the program needs for inventory, monitoring and other evaluation objectives pursuant to our statewide program. Among those surveys completed this year, assistance was provided to the Environmental Coordination, Coldwater and Warmwater Fish Management units of the Division, West Virginia University, U.S. Environmental Protection Agency, and the U.S. Forest Service.

Several objectives of ACARP were completed during this year. Two monitoring sites were sampled; our collection team continued boat/raft sampling efforts (approximately 20) to perfect protocols for fish sampling non-commercial rivers and to gather data on rivers where fish data are severely lacking; and, staff continued a special project (initiated in 2014) to evaluate the status of the Candy Darter. Data to date, suggests the Candy Darter populations in West Virginia are in jeopardy, and the U.S. Fish and Wildlife Service will soon initiate the process to list this species as a threatened or endangered federal species. Inventorying and monitoring of state fishes are two of the most important on-going aspects of our ACARP; to assist these phases, the preparation of a major manuscript regarding the addition of several fishes to the state fauna has been completed, and an West Virginia Fish Atlas dedicated to the identification, distribution, and conservation status of all introduced and native state fishes has been initiated.

Effort was expended the preparing summaries for West Virginia's second State Wildlife Action Plan (SWAP). The plan identified approximately 70 fish species of greatest conservation need, the threats that would jeopardize their existence, and strategies to keep these species off the Federal Endangered Species list.

Spotted Skunk (*Spilogale putorius*)

Two telemetered spotted skunks (one male, one female) were monitored several times weekly in Pendleton County via telemetry to determine home ranges, home range sharing between skunks, den types, seasonal habitat preferences and movements. When practical, trail cameras were placed at known dens to monitor spotted skunk behavior in the den vicinity and to determine food preferences when the female was bringing food to her offspring.

Since the West Virginia Wildlife Diversity Unit has been successful at locating spotted skunk populations, it was approached by the Pennsylvania Game Commission staff to field test and refine hair snares designed specifically for collecting spotted skunk hair samples (for DNA analysis). Wildlife Diversity staff received and deployed eight hair snares constructed by the PGC. Trail camera surveillance indicates the snares 1) successfully collected spotted skunk and striped skunk hair and 2) are bear proof. It is expected that this sampling technique will be applied throughout the central Appalachians where there is increasing interest in this species.

Outreach & Education

Many information requests were answered via email and phone calls. Throughout the year and all over the state, presentations were given at elementary schools, middle and high schools, retirement homes, Girl Scouts and Boy Scouts camps, Cub Scouts, day camps, church schools and camps, youth centers, children's centers, state parks, national wildlife refuges, several county-wide environmental and conservation day events and several watershed associations water festivals. Displays were present at





Hooked on Fishing Not on Drugs, Forest Festival and National Hunting and Fishing Days Celebration. Several Master Naturalists classes were taught at chapters around the state. Field trips were lead at the Wildflower Pilgrimage and Fox Forest WMA. Five West Virginia Wild Yards were certified this past year. Approximately 17,100 West Virginia Wildlife Calendars were sold in 2015.

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 the WRS considers it a Species of Greatest Conservation Need. WRS received funding from the U.S. Fish and Wildlife Service (USFWS) to conduct post-delisting monitoring this fiscal year to insure the species remained secure.

West Virginia northern flying squirrel nest boxes were monitored at 12 sites to obtain data on the distribution and population trends of this rare mammal. During this fiscal year, no northern flying squirrels were captured in fall 2015 and 6 squirrels were captured in spring 2016. During this fiscal year, in addition to squirrels captured by WRS personnel, a total of 14 northern flying squirrels were captured by consultants and U.S. Forest Service (USFS) biologists. An additional six squirrels were identified through hair samples obtained using hair snares and verified via DNA by Purdue University personnel. All capture data on this species, including captures by other state and federal agencies and other researchers, were entered into the program's database and map files.

Federally Listed Bat Species

Two endangered bat species occur in West Virginia: the Indiana bat and the Virginia big-eared bat. Although two endangered gray bats were observed in a West Virginia cave in 1991, this species has not been seen in the state since that observation. In 2016, the USFWS listed the northern long-eared bat as federally threatened due to population declines caused by the fungal disease known as White Nose Syndrome (WNS). This species is widespread in the state.

WNS has killed millions of cave bats in the eastern United States and Canada. The disease was first observed in West Virginia in January 2009. 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 significant cave resources. In early 2016, WNS was documented in Wetzel County.

During winter 2015-16, winter bat surveys were conducted in 20 caves to monitor populations of hibernating bats. During these surveys, all bats present were counted. Because WNS can possibly be spread by people visiting caves, biologists conducting bat surveys followed disinfection protocols developed by the USFWS and other agencies to clean gear and clothing between cave trips. Hellhole, the state's most important bat hibernaculum, was surveyed in February 2015 and won't be surveyed again until February 2017. The 20 caves surveyed contained 1,722 bats of six species. In decreasing order of abundance these were: tricolored bat, little brown bat, big brown bat, Virginia big-eared bat, Indiana bat, and eastern small-footed bat.

Eight of the caves surveyed by the WVDNR this past winter were also surveyed in 2014, and comparing bat numbers between these years offers some much-needed hope. In addition, data for a ninth cave used in this analysis was provided by the National Speleological Society. For the first time since WNS was observed in West Virginia, the overall number of little brown bats tallied during hibernacula surveys exhibited a small increase between one survey and the next. There was a 17.5 percent increase from 2014 to 2016 (480 in 2014 and 564 in 2016). Increases were observed at five caves, decreases

noted at two caves, one cave was the same both years, and one cave did not have little browns in the years before WNS and still had none. However, during the last surveys before White Nose Syndrome arrived, these caves held a total of just slightly less than 8,500 little brown bats.

Data from these same nine caves indicate that tricolored bats declined only 2.4 percent between 2014 and 2016. At caves surveyed in both 2013 and 2015, there was a 52 percent decline between those two survey years. Although populations of Indiana bats have not declined as rapidly as little brown bats following the arrival of WNS to the state, their decline is continuing with an additional 47 percent decline recorded at caves surveyed in both 2014 and 2016. Big brown bats and eastern small-footed bats both showed small increases in their numbers between 2014 and 2016. None of these nine caves had northern long-eared bats in either 2014 or 2016.

Virginia big-eared bats continue to remain unaffected by WNS. In June 2016, female Virginia big-eared bats were censused at the 11 known maternity colonies in the state. Night vision equipment and infrared lights were used to count these cave-dwelling bats as they left their roost to feed in the evening. The number of bats counted this June (9,004 individuals) was up 4.3 percent over the 2015 count and is the highest count on record.

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. In addition to the USFS, assistance in conducting acoustic surveys has been provided by USFWS West Virginia 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.

WRS 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 were some problems encountered because of lightning knocking out communication links.

In summer 2011, a bachelor roost (all males) of Indiana bats was found under a bridge on the West Virginia Turnpike. This is the largest summer colony of this bat known in the state. These bats have been monitored by WRS and West Virginia Division of Highways (WVDOH) personnel to determine seasonal activity patterns at this site to assist with planning bridge maintenance. WVDOH continued to monitor this site in 2016, and data was provided to WVDNR.

Program biologists continued to work with wind power developers to reduce bird and bat mortalities at wind farms. The WVDNR currently serves on technical advisory committees established by the Public Service Commission for projects in Grant, Greenbrier, Mineral, Randolph, and Tucker counties. In 2015, the Pinnacle facility conducted its third season and final season of post-construction monitoring and testing of potential operational changes that could reduce bat mortality. An operational curtailment scheme was implemented in July 2016 to reduce bat mortality.





Cheat Mountain Salamander

For the past several years, tissue samples (tail clips) from Cheat Mountain salamanders, a species found only in West Virginia, have been collected so that the genetics of this species can be examined. In 2013, the WRS and USFWS funded a graduate student at University of North Carolina to analyze these samples. This work has been completed and a final report was provided to the WVDNR in early 2016.

Program biologists have been working with USFWS and USFS personnel and consultants for the WB Xpress pipeline project. The project proposes to expand the pipeline through known occupied Cheat Mountain salamander habitat. Our goal is eliminate or minimize impacts to the species and we are considering conservation measures to benefit the species at this site.

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. Data on the distribution of both species were compiled and entered into databases to assist in reviewing proposed projects which could potentially impact these crayfish. In May 2016, the WVDNR, USFWS and West Liberty University conducted a workshop at Twin Falls Resort State Park for consultants wishing to be certified to conduct surveys for these two species.

Allegheny Woodrats

WVDNR biologists have not conducted Allegheny woodrat surveys in recent years because limited resources were focused on addressing bats and White Nose Syndrome; biologists were able to record observations of woodrats made while conducted other work in caves. In the summer 2016, program biologists conducted surveys at three sites where surveys had been previously conducted where woodrats had been captured. Unfortunately, no woodrats were captured at any of these sites in 2016.

Federally Listed Freshwater Mussels

Ten mussel species in West Virginia are listed as federally endangered, although one species may now be extinct. Endangered Species Program personnel assisted with several mussel projects during this fiscal year, including surveys at long-term monitoring sites and monitoring of mussels that were translocated from other sites to re-establish or enhance mussel populations where they have been depleted. The projects are described in the Freshwater Mussel section of this report.

Other

Endangered Species Program personnel reviewed WRS projects to assure compliance with the federal Endangered Species Act. Assistance was provided with preparing a red spruce restoration plan for Blackwater Falls State Park. Private landowners were assisted with the management and conservation of rare species on their lands. Program biologists participated in regional and national workshops and biweekly conference calls addressing White Nose Syndrome. Program staff worked with WRS Coordination, USFWS, and USFS personnel to review and comment on proposed pipeline projects and potential impacts to rare, threatened, and endangered species.

The last field season for the West Virginia land snail atlas project was completed in summer 2015, and the book, "Land Snails of West Virginia," was published in December 2015. Copies of this publication were given to several college and university libraries.

State Wildlife Action Plan (SWAP)

The West Virginia State Wildlife Action Plan (SWAP) received approval from the U.S. Fish and Wildlife Service in September 2016. Wildlife Diversity staff continued further development of the SWAP by drafting specific action plans for three conservation focus areas (CFA); the Cacapon-Patterson Creek

CFA, the Greater Greenbrier CFA, and the Gorges CFA. CFA plan implementation is expected to begin with outreach activities and partnership development in January 2017.

TECHNICAL SUPPORT UNIT

Stream Restoration Program Physical Habitat Restoration Projects

Personnel were active during the year coordinating and participating in efforts to assess and restore aquatic habitats in the state. Staff participated in the field reconnaissance of degraded streams, developed and submitted grant applications for inventory and research projects, and coordinated the implementation of such projects. WRS has continued the cooperative agreement with the Natural Resources Analysis Center at West Virginia University to assist in the development and implementation of the Stream Restoration Program. Program staff and partners completed a major fish passage restoration project on Lamothe Run of Upper Shavers Fork in 2013. Results of monitoring have been positive, indicating that brook trout are passing through the modified culvert. The Mill Creek stream restoration project in Kumbrabow State Forest, which was constructed in 2013, has had mixed results. Many structures are performing well, providing quality pool habitat and overhead cover. Several structures did not survive high flow events during the winter and spring. Staff accessed the structures that did not function as anticipated this year. Staff repaired some of the structures this year and replicated additional structures that have proved successful. Staff continues to monitor this project. Streams were assessed as potential sites for additional future work. The cooperative agreement developed with the West Virginia Cooperative Fish and Wildlife Research Unit at WVU to coordinate and provide funding support for a long-term assessment of the effects of the aquatic habitat restoration project, completed on the Shavers Fork main stem in 2012, is in the second year of monitoring efforts. Year One results indicate an increase in trout habitat units and Aquatic Organism Passage projects are successful. Determination of population level effects will require several more years of data analysis. Production of a video documentary about the Shavers Fork restoration efforts has been completed.

Acid Stream Restoration Program

Management of the WRS's Acid Stream Restoration Project continued. This nationally recognized, publicly visible, and highly popular project has restored, and now annually maintains water quality and sport fisheries in more than 392 miles of 85 streams and five lakes impacted by acid precipitation. Restoration has been accomplished through annual direct application of limestone sand to acid-impacted streams and through the operation of two self-feeding limestone drum stations. The total project budget is approximately \$350,000 annually. Seventy-five percent of project support accrues from the Sport Fish Restoration and Boating Trust Fund administered by the U.S. Fish and Wildlife Service (USFWS). The remaining 25 percent accrues from nonfederal sources including, investment income from the West Virginia Wildlife Endowment Fund administered by the Division of Natural Resources and additional financial support from Trout Unlimited, Plum Creek Timber Company, and Mead Westvaco. Without the Acid Stream Restoration Project, sport fisheries would be lost in these waters. Public fisheries in these restored waters sustain an additional 341,000 days of sport fishing and \$24 million of associated economic impact annually.

Planning Program

The fish and wildlife planner coordinating with WRS staff continued to work on the Wildlife Resources Section Capital Improvements Strategic Plan. Work was nearly completed on updates to the WRS's State Wildlife Action Plan in this reporting period, which is a requirement to continue receiving federal funds under the State Wildlife Grant program administered by the USFWS. Assistance was provided in developing the Division's annual budget narrative; fiscal notes were prepared and submitted on legislation during the 2016 legislative session.





Coordination Program

Continued action (e.g., compliance coordination with currently licensed hydropower projects, impact analysis, development of mitigation plans and document review associated with relicensing activities) was taken on each of the following proposed or licensed hydropower projects at reservoirs or river locks and dams: Millville Dam on the Shenandoah River, Lake Lynn Dam on the Cheat River, Hawks Nest Dam/Glenn Ferris and Bluestone Dam on the New River, Tygart Dam on the Tygart Valley River, Robert C. Byrd, New Cumberland Dam, Opekiska Dam, Morgantown Dam on the Monongahela River, Stonewall Jackson Dam on the West Fork River. During this reporting period, nine projects were in the licensing or relicensing process. Fourteen projects (15 developments) are currently licensed and/or are operating within West Virginia.

West Virginia continues to receive wind project inquiries. Two new inquiries were received during this reporting period (Cherry Ridge and Mountaineer 2) and some projects from the last reporting period have been dropped or ceased progression. West Virginia has received inquiries for approximately 14 separate wind projects located in seven counties with as many as 2,000 turbines.

The Coordination Program continued participation in the National Environmental Policy Act mitigation process for several major highway projects and numerous smaller highway, bridge, and culvert improvement projects. Adoption of more environmentally sound design standards for culvert sizing and installation will significantly reduce the impacts of road crossings over West Virginia streams. Major highway projects that required significant time and effort included King Coal Highway, Coalfield Expressway, the New River Parkway, Corridor H (Kernes to Parsons), and US Highway 220. Ninety-three bridges, 84 culverts, and 57 other minor road projects (road widening, passing lane construction, flood damage, etc.) also received attention. Working with WVDOH, 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.

State Clean Water Act (CWA) certifications continue to be reviewed under the Memorandum of Understanding (MOU) with the West Virginia Department of Environmental Protection (WVDEP). Additional reviews were conducted and comments provided relative to Section 10 of the Rivers and Harbors Act. Considerable mitigation in the form of avoidance, reduction, re-creation, enhancement and compensation has been secured as a result of these efforts. Individual CWA, Section 404/10 permit actions were reviewed and coordinated. They include highway reviews, wetland and stream permit reviews, economic development projects, Natural Resources Conservation Service (NRCS), and West Virginia Conservation Agency (WVCA) project reviews. Staff responded to requests from the WVDOH, local officials, state officials, and numerous watershed groups for information on permitting issues relating to wetland disturbance, mitigation obligations, permit compliance, Natural Stream Design, and other topics.

Significant time continues to be spent working with the WVDEP and the COE evaluating and refining the science-based assessment protocol (West Virginia Stream and Wetland Valuation Metric) for stream and wetland disturbance activities. A CWA In-Lieu Fee Mitigation Program for the state has been officially certified and staff spends considerable time assisting the ILF coordinator. Staff serves on the Interagency Review Team (IRT). The IRT reviews and evaluates mitigation banking proposals and mitigation projects submitted by the In-Lieu Fee program. As of June 30, 2015, the ILF has received \$37,683,063 in payments. 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, Lakin State Farm, and Dunloup Creek. The ILF program has committed \$18,818,340 to projects as of this reporting period.

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. Achievement of yearly success criteria is required for annual credit releases. There are 26 bank sites in various stages of development. There are 12 banks currently authorized to sell mitigation credits.

The Regional 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 nationwide permits. Staff expended considerable time coordinating with WVCA, COE, and WVDEP to formulate a Memorandum of Understanding and standard operating procedures between all involved groups. The MOU was officially signed during this reporting period and eight Stream Management Plans have been reviewed and recommended for permitting.

Staff worked with the NRCS and USFWS on three dam removals on the West Fork River. It is the goal to return approximately 25 miles of the river to a free-flowing state. Two of the three dams were removed this year. Staff coordinated with the WVCA on 11 Natural Stream Restoration projects using principles of NSD to resolve significant bank stability issues on private lands. Projects were reviewed and authorized on Knapps Creek, South Fork 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. NRCS has submitted a revised permit application for the project that has several significant discrepancies from the original permit application. Staff reviewed preliminary Stream and Wetland Valuation forms for the proposed dam rehabilitation project on Upper Deckers Creek.

We were successful in securing an EPA Wetland Development Grant for \$700,000 to develop a science-based mitigation tool similar to the stream tool in the SWVM. The tool will also be used to monitor our state wetlands. WVDNR is directing the majority of the grant to DEP to complete the project. Coordination with DEP continues on this project.

Staff serves on several interagency committees including the Interagency Review Team (mitigation banking, in-lieu fee), the Water Gaging Council, State Association of Wetland Managers, and the NRCS State Technical Committee for Farm Bill programs.

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 also was provided to Warmwater Fish and Game Management Units for oil and gas activities on Lewis Wetzel WMA.

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 WVDEP, USACE and 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 BMPs for stream crossing activities. Staff provided continued support to the U.S. Fish and Wildlife Service in protecting their charge resources potentially impacted by the oil and gas industry.





Project personnel continue working with USFWS personnel to develop the Ohio River Islands National Wildlife Refuge Habitat Management and Hunt Plans. Work continues on the Canaan Valley Habitat Management Plan. Coordination continues with minor projects requiring NEPA review for the USFS - Monongahela National Forest.

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.

Following are some additional highlights of the Biometrics/GIS Program:

Game Management Plan Revisions

Biometrics staff continued to provide assistance to Game Management staff with data development, spatial analysis, and cartography as part of a series of ongoing Game Management plans.

Chronic Wasting Disease

Data analysis and mapping services supported the ongoing Chronic Wasting Disease monitoring efforts.

Wildlife Management Area Mapping

GIS staff continued development of spatial databases for mapping WMA boundaries and facilities. These data are used for natural resource planning and producing maps for the public.

White-Nose Syndrome

Biometrics staff assisted Wildlife Diversity staff with the implementation of an expanded fourth year of a statewide bat surveys. Laptop computers fitted with ultrasonic acoustic receivers and GPS units were used by staff and volunteers to increase statewide acoustic route coverage. Acoustic bat call recordings are analyzed to help determine changes in bat populations and habitat use.

Rare Species Distribution Models

Work continued to expand the number of species and validate species distribution models to estimate the statewide distribution of 250 species and 25 habitats in the West Virginia Wildlife Conservation Action Plan.

Recreational Resources Mapping

Staff continues work to develop/enhance a web-tool to provide the public increased access to Wildlife Resources Section 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.

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.



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