



ANNUAL REPORT

**MONTANA DEPARTMENT OF LIVESTOCK
Montana Veterinary Diagnostic Laboratory**

Mission Statement

To serve the State of Montana by providing high quality, accurate, financially accessible and timely veterinary diagnostic testing, results and consultation; to assist state animal health officials in the diagnosis, control, and prevention of animal disease; and to contribute to state and national efforts to protect both animal and public health.



**FISCAL YEAR
July 1, 2018 through June 30, 2019**

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Fig. 1—Sheep (Pexels.com)

Director's Statement

The 2019 fiscal year featured some significant changes for the Montana Veterinary Diagnostic Lab (MVDL). I joined the staff as Lab Director in April, 2019 and have been impressed by the dedication and hard work put forth by our staff on a consistent basis. I would like to personally thank Dr. Steve Smith for his tireless commitment in serving as Interim Lab Director for the majority of the year while still working as a full time veterinary pathologist. It is this type of commitment from our employees that makes the MVDL a special place to work.

Heading into FY2020, we anticipate more positive change on the horizon. We are actively recruiting both a veterinary pathologist as well as a veterinary microbiologist that we expect will significantly enhance our diagnostic expertise. Additionally, we have secured federal funding for equipment that will enable us to perform testing for the detection of Chronic Wasting Disease (CWD) and this service is expected to be available by the end of the current calendar year.

Overall, we saw relatively consistent testing numbers in 2019 relative to 2018. This report contains a summary of test data from all sections of the Montana Veterinary Diagnostic Laboratory with the exception of the Montana Milk Laboratory, which is also housed within our facility.

As we move forward into FY2020, we look forward to serving our clients by providing the highest quality diagnostic testing services to further our mission of protecting animal and public health.

Sincerely,

A handwritten signature in blue ink, appearing to read 'G. Juda', is positioned below the word 'Sincerely,'.

Gregory Juda, PhD
Lab Director
Montana Veterinary Diagnostic Laboratory

DIAGNOSTIC LAB STAFF

Administration and Pathology

Gregory Juda, PhD..... Lab Director
Steve Smith, DVM, DACVP Veterinary Pathologist

Administrative Support

Tess Moore..... Quality Manager
Cathy Ortega Front Office
Michelle Reynolds Front Office
Lauren Larios Pathology/Administrative Assistant

Clinical Pathology

Cecilia Esparza, CLS Clinical Laboratory Technologist
Katie Breen Technician

Histology

Dan Zou, PhD..... Technician

Microbiology

Jessica Rogers, MS..... Technician
Kaylee Krantz..... Technician

Milk Laboratory

Julie Armstrong Technician
Erin Burns Technician

Molecular Diagnostics

June Pounder, PhD Technician

Serology

Antonio Fuentes Sanchez Technician
Diana Florian-Ospina Technician

Virology

Sarah Horak..... Technician
Bryan Tegner Jacoboson Technician

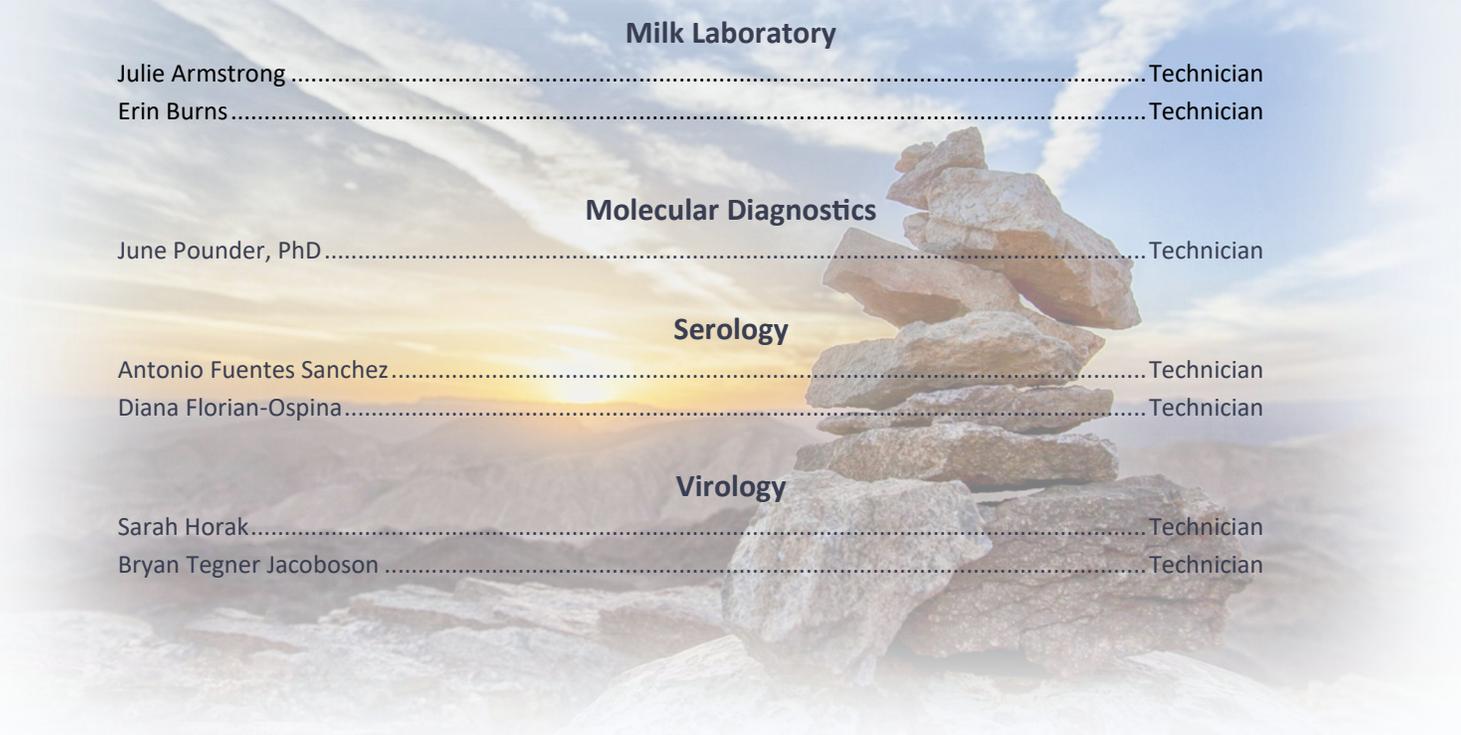


Fig. 2—Stacked Rocks (Pexels.com)

B U D G E T A N D F U N D I N G

Montana Veterinary Diagnostic Laboratory (MVDL) is funded by multiple sources including fee income from tests performed, Montana State General Funds, Montana State Special Revenue (livestock head tax), and federal grant funds. Fee income of approximately 50% is typical for state-run diagnostic test laboratories. Although a substantial portion of MVDL’s budget is supplied by fee income, the State of Montana, the livestock industry, and the National Animal Health Network (NAHLN) are also significant contributors to funding annual lab operations and allow the laboratory to better fulfill our mission and serve Montana. The following graph and table detail the sources and amounts contributed to our operational budget for FY2019.

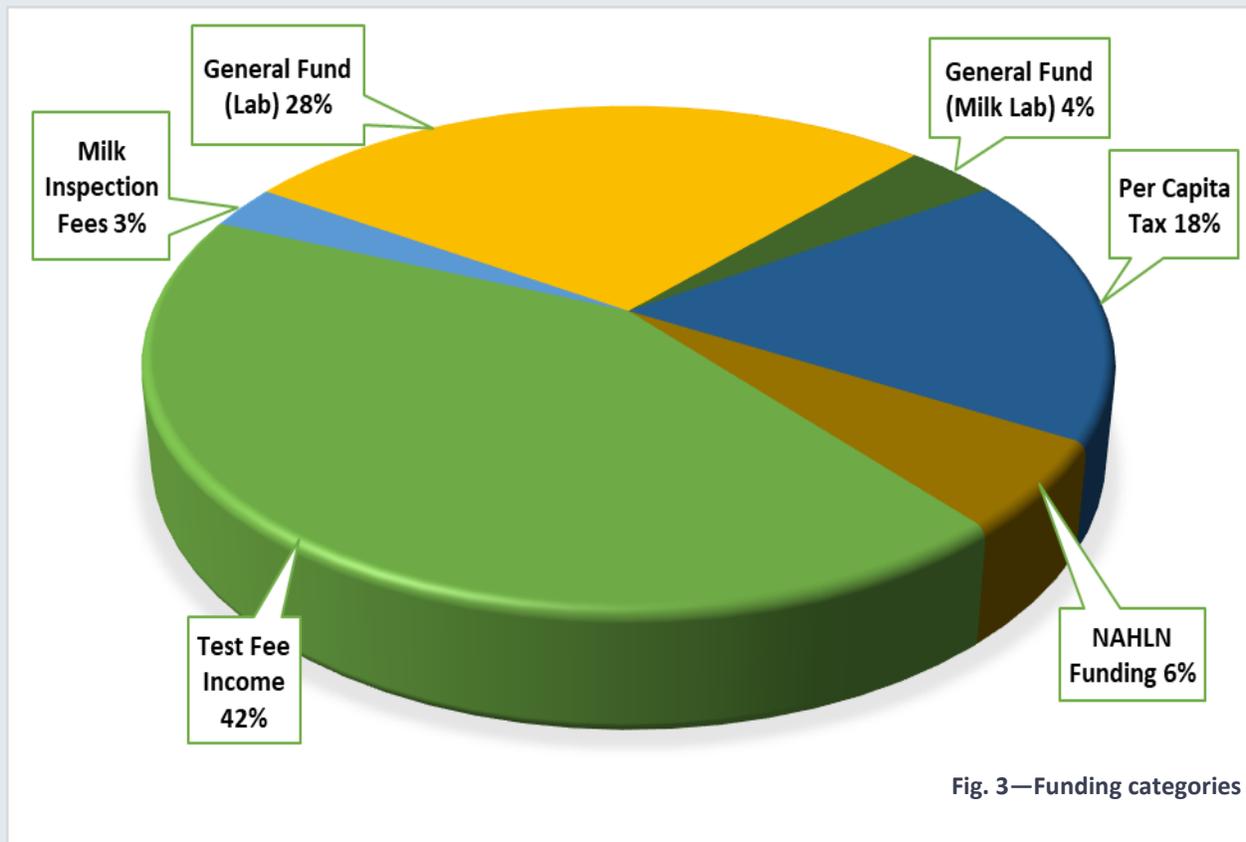


Fig. 3—Funding categories

2019 Fiscal Year Lab Funding Sources	
Test Fee Income	\$1,021,589
Milk Inspection Fees	\$67,671
General Fund (Lab)	\$671,927
General Fund (Milk Lab)	\$88,753
Per Capita Tax	\$421,657
NAHLN Funding	\$137,000

NAHLN

Montana Veterinary Diagnostic Lab (MVDL) is a member of the National Animal Health Laboratory Network (NAHLN). The NAHLN supports United States (U.S.) animal agriculture by developing and increasing the capabilities and capacities of a national veterinary diagnostic laboratory network to support early detection, rapid response, and appropriate recovery from high-consequence animal diseases. It is a nationally coordinated network and partnership of federal, state, and university-associated animal health laboratories. NAHLN veterinary diagnostic laboratories provide animal health diagnostic testing to detect biological threats to the nation's food animals, thus protecting animal health, public health, and the nation's food supply. The MVDL has the capacity to perform NAHLN testing for eight different high impact animal diseases.

These diseases include:

- ◆ Foot and Mouth Disease
- ◆ Classical Swine Fever
- ◆ Vesicular Stomatitis
- ◆ Avian Influenza (IAV-A)
- ◆ Swine Influenza (IAV-S)
- ◆ Pseudorabies
- ◆ Newcastle Disease (Avian Paramyxovirus)
- ◆ African Swine Fever

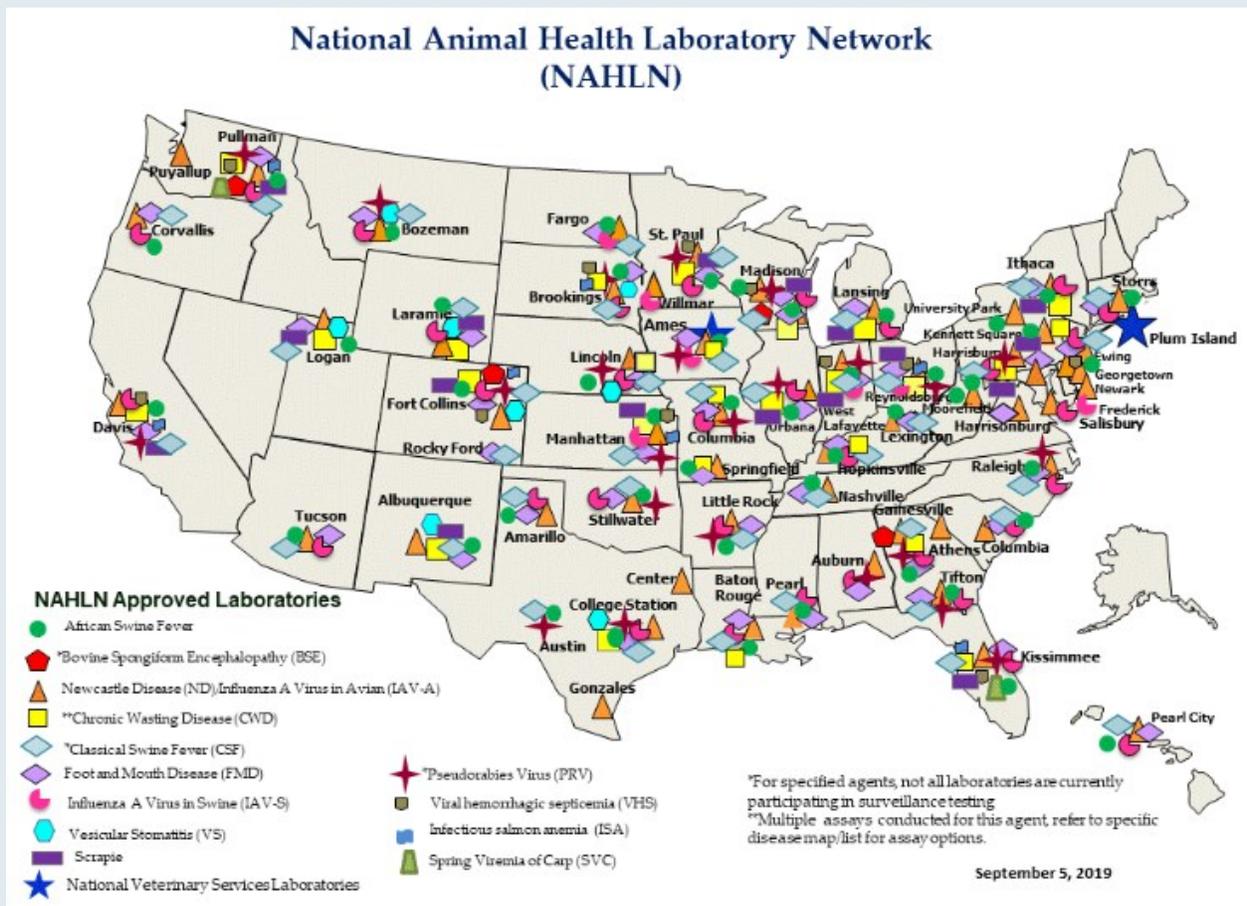
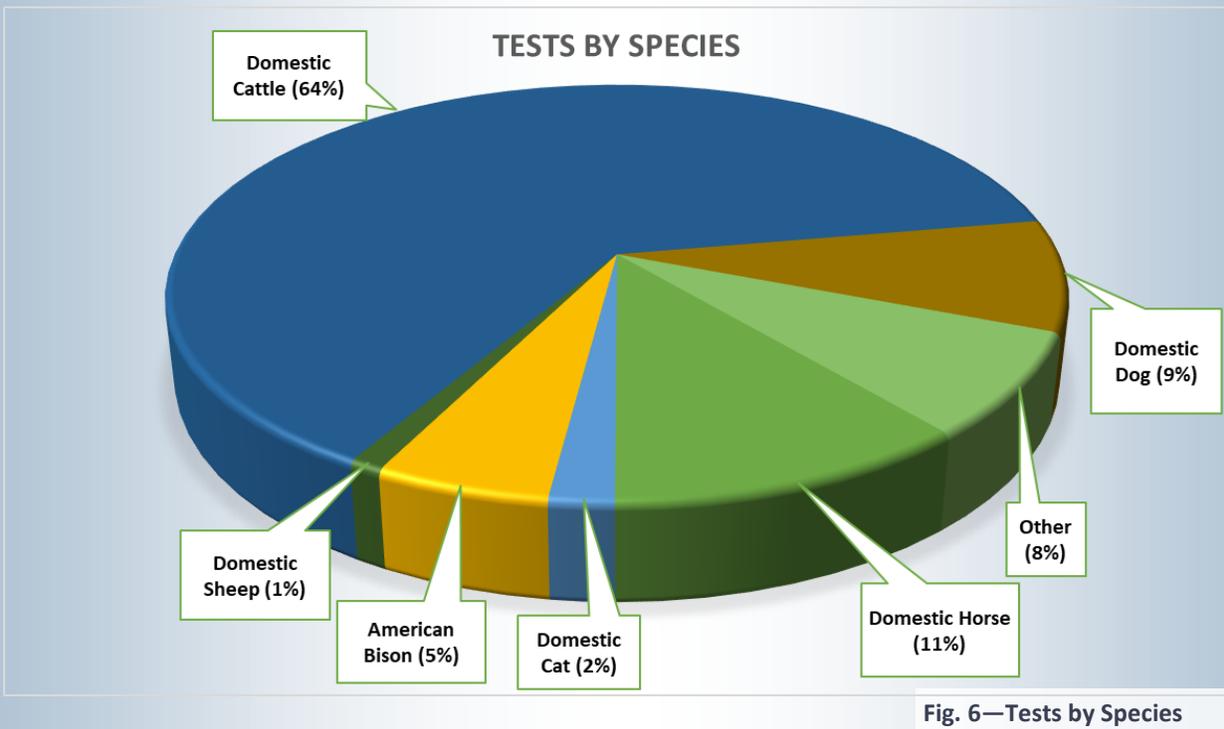
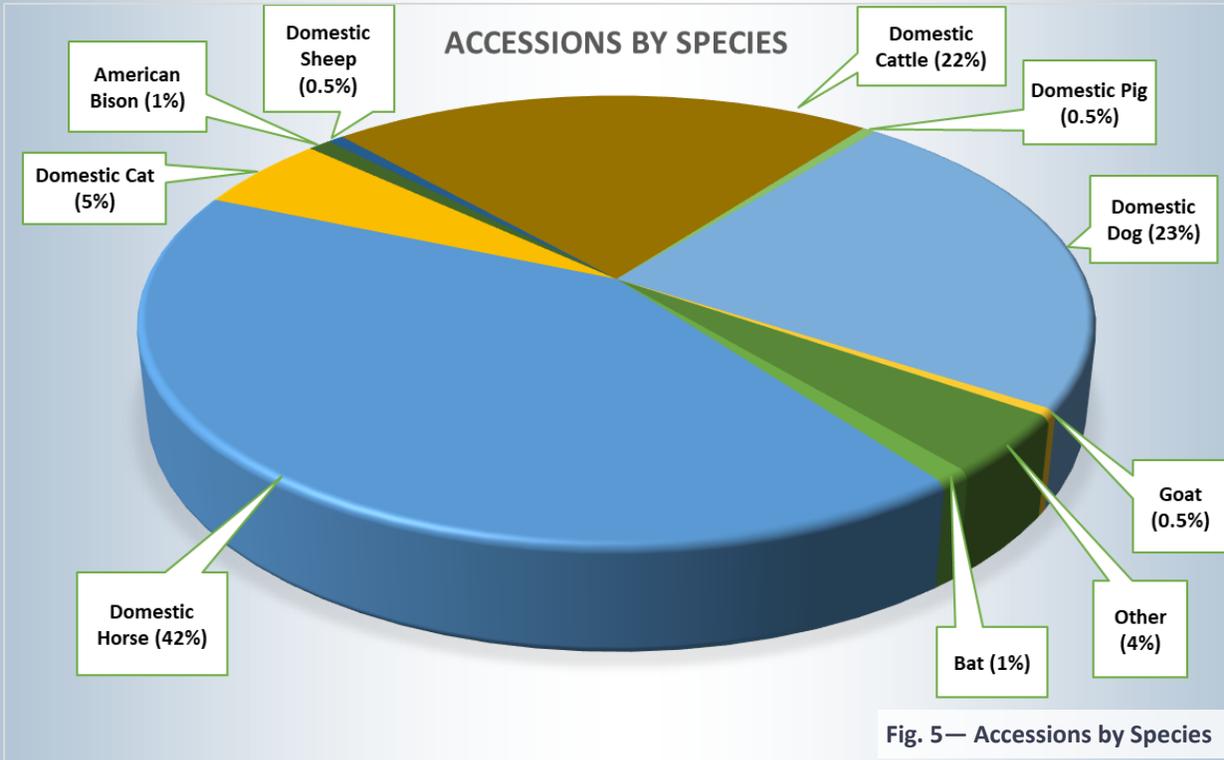


Fig. 4—NAHLN map (USDA)

ACCESSION AND TESTING DEMOGRAPHICS

An accession is a specimen or group of specimens from either a single animal or a herd, belonging to one owner, from a single submitter. Accessions are sometimes referred to as cases. Multiple individual tests may be performed on a single accession or specimen. The following graphs represent the percentage of accessions and total tests performed by species with domestic horses and domestic cattle representing the highest percentages, respectively.



A C C E S S I O N A N D T E S T I N G D E M O G R A P H I C S

The Montana Veterinary Diagnostics Lab (MVDL) performed approximately 200,000 total diagnostic tests in FY2019 which is fairly consistent with the total number of tests performed in the two years prior. An additional 1,246 tests were referred out to other laboratories for services that aren't currently offered by MVDL.

FY2019 Total Number of Accessions and Test Data:

Species	Accessions	Tests
Domestic Cattle	4,439	125,501
Domestic Horse	8,420	21,963
Domestic Dog	4,716	17,003
Other	866	15,704
American Bison	188	10,551
Domestic Cat	1,100	3,901
Domestic Sheep	126	2,025
Goats	97	663
Domestic Pig	111	594
Bat	197	400
Total	20,260	198,305

Total Referrals Sent to Other Laboratories: 1,246

Numbers Showing Historical Accessions and Testing Data:

	2017	2018	2019
Total Accessions	21,923	20,824	20,260
Total Tests	189,390	199,619	198,305

R A B I E S S U M M A R Y

One critical public health function of the Montana Veterinary Diagnostic Laboratory (MVDL) is rabies testing within Montana. During Fiscal Year 2019, 16 positive rabies tests were in bats and one domestic cat tested positive. The majority of rabies testing in bats and identification of positive samples occurs during warmer months, when bats are more active. Causes of an unsuitable test result typically involve lack of a suitable anatomic test sample (brain stem and cerebellum) or decomposition of the tissue to be tested.

Species	Positive	Negative	Unsuitable	Total
Bat	16	168	20	204
Bobcat	0	1	0	1
Coyote	0	3	0	3
Domestic Cat	1	113	1	115
Domestic Cattle	0	14	2	16
Domestic Dog	0	116	1	117
Domestic Goat	0	1	0	1
Domestic Horse	0	10	1	11
Domestic Pig	0	1	0	1
Elk	0	1	0	1
European Hamster	0	1	0	1
Fox	0	6	0	6
Fox Squirrel	0	1	0	1
Mouse	0	1	0	1
Mule	0	1	0	1
Muskrat	0	0	1	1
Prairie Dog	0	1	0	1
Raccoon	0	19	0	19
Squirrel	0	2	1	3
Skunk	0	9	2	11
Total	17	469	29	515

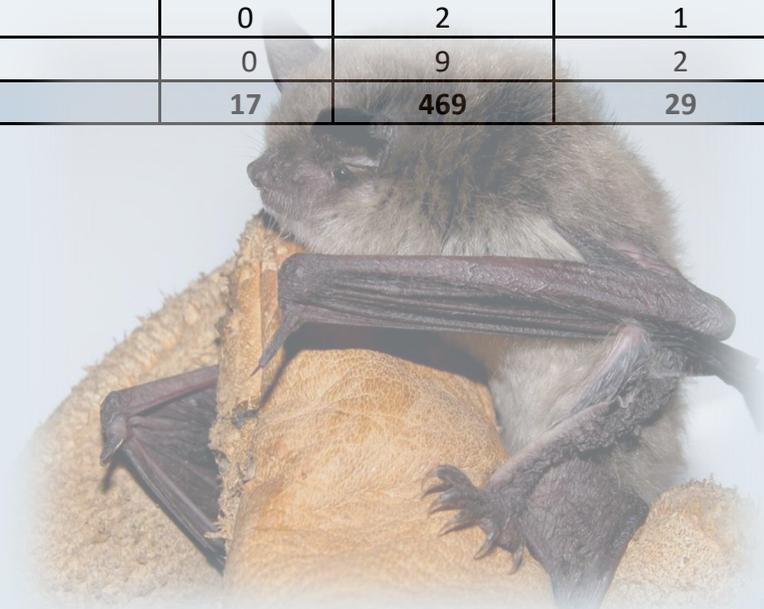


Fig. 7—Bat (MT FWP)

BRUCELLA SUMMARY

Several of our highest volume tests are for *Brucella abortus*, and these also serve our public health mission. The following table represents the five highest volume *Brucella* tests performed by the MVDL.

Tests by Month	RAP	FPA	BAPA	CF	Card
July	1882	700	316	66	8
August	2025	147	400	92	25
September	5102	474	366	113	21
October	25461	1078	396	162	136
November	21689	2802	677	54	4
December	14651	1127	350	84	176
January	4536	254	522	76	58
February	2316	79	541	42	29
March	2167	89	497	125	16
April	1741	423	754	188	20
May	3221	87	577	142	60
June	682	28	834	35	11
Total Tests	85,473	7,288	6,230	1,179	564

- * RAP: Rapid Automated Presumptive Test
- * FPA: Fluorescent Polarization Assay
- * BAPA: Buffered Acidified Plate Antigen Test
- * CF: Complement-Fixation Test
- * Card: Standard Card Test



Fig. 8—Bison (Pexels.com)

P R O F I C I E N C Y T E S T I N G

Montana Veterinary Diagnostic Laboratory (MVDL) technicians perform routine proficiency testing as a means of maintaining compliance with applicable regulations and assuring the integrity of MVDL testing methods and personnel. The following table summarizes the proficiency tests completed in FY2019.

FY2019 MVDL Proficiency Testing Participation	Section
Heartworm Serology	Clinical Microbiology
Microbiology Quality Assurance	Clinical Microbiology
NVSL/NPIP Salmonella Group D Isolation	Clinical Microbiology
Chemistry Panel	Clinical Pathology
Endocrine Panel	Clinical Pathology
Hematology Panel	Clinical Pathology
Urinalysis Panel	Clinical Pathology
Urinalysis Identification	Clinical Pathology
Anaplasmosis Serology	Clinical Serology
Avian Influenza AGID/ELISA	Clinical Serology
Bluetongue Virus	Clinical Serology
Brucella ovis Serology	Clinical Serology
Brucellosis Serology	Clinical Serology
Equine Infectious Anemia AGID	Clinical Serology
Equine Infectious Anemia ELISA	Clinical Serology
Johnes Serology	Clinical Serology
Vesicular Stomatitis Complement Fixation	Clinical Serology
Bovine Leukosis Virus	Clinical Virology
Rabies DFA	Clinical Virology
Pseudorabies ELISA	Clinical Virology
Messaging	Laboratory
Avian Influenza (AIV, NDV, SIV) Real Time RT-PCR	Molecular Diagnostics
Avian Paramyxovirus-1 Real Time RT-PCR	Molecular Diagnostics
Classical Swine Fever Virus rRT PCR	Molecular Diagnostics
Foot & Mouth Disease Virus rRT PCR	Molecular Diagnostics
Influenza A Virus (Swine) Real Time RT-PCR	Molecular Diagnostics
NVSL/NPIP Salmonella Group D Isolation	Molecular Diagnostics
Vesicular Stomatitis rRT-PCR	Molecular Diagnostics



Fig. 9—AAVLD logo (AAVLD)



Fig. 10—VLA logo (VLA)

T E S T D A T A — S E R O L O G Y

Montana Veterinary Diagnostic Laboratory (MVDL) provides a comprehensive suite of serology test methods, the bulk of which serve to support the Brucellosis surveillance program managed by the Animal Health Bureau of the Department of Livestock and screening for Equine Infectious Anemia. The following table details the number of individual tests conducted in FY2018 and 2019 by test type.

Test Type	FY18	FY19
B. abortus RAP	81,057	84,924
B. abortus FPA	10,184	7,299
B. abortus BAPA	4,970	6,208
EIA AGID (total)	6,282	6,055
M. avium paratuberculosis ELISA	1,612	3,228
EIA ELISA (total)	1,922	1,641
Brucella abortus/suis - CF	1,667	1,137
Bluetongue ELISA	1,069	737
B. ovis ELISA	723	685
EHD AGID	1,016	651
B. abortus Card	788	566
Anaplasma cELISA	939	508
B. abortus STT (1:50)	242	254
B. abortus SPT (1:50)	393	190
B. canis RSAT	78	121
CAE/OPP cELISA	182	79
Salmonella Pullorum	5	75
B. canis 2ME-RSAT	17	35
Avian Influenza AGID	2	8
B. abortus Rivanol	13	2
B. abortus STT (1:25)	3	0
Total	113,164	114,403

T E S T D A T A — V I R O L O G Y

Montana Veterinary Diagnostic Laboratory (MVDL) provides a broad spectrum of virology related diagnostics. The following table details the number of individual tests conducted in FY2018 and FY2019 by test type.

Test Type	FY18	FY19
Bovine Viral Diarrhea ELISA	2,043	1,793
Leptospira (5 Routine Serovars)	1,326	1,153
Bovine Leukemia Virus ELISA	1,025	628
Infectious Bovine Rhinotracheitis SN	771	725
Bovine Virus Diarrhea Type 1 SN	745	548
Bovine Virus Diarrhea Type 2 SN	745	548
Rabies - Small Animal	461	478
Bovine Respiratory Syncytial Virus SN	315	354
Pseudorabies ELISA	184	215
Parainfluenza-3 HI	161	170
FeLV/FIV Combo Rapid Immunoassay (SNAP)	116	107
Leptospira (7 Routine Serovars)	112	311
Bovine Leukemia Virus AGID	92	79
Feline Infectious Peritonitis ELISA	56	43
Vesicular Stomatitis (Ind)	54	39
Vesicular Stomatitis (NJ)	54	39
Bovine Viral Diarrhea - Virus Isolation	49	66
Large Animal Rabies	38	28
Canine Distemper Virus FA	31	5
West Nile Virus IgM ELISA	31	66
Leptospira FA	19	24
FeLV Rapid Immunoassay (SNAP)	18	5
Canine Parvovirus Rapid Immunoassay (SNAP)	8	6
Rabies Carcass Disposal	29	26
Canine Parvovirus FA	2	4
Feline Panleukopenia Virus FA	0	3
Equine Herpesvirus Fluorescent Antibody	0	1
Bovine Herpesvirus 1 Fluorescent Antibody (IBR)	0	1
Total	8,485	7,534

TEST DATA — MICROBIOLOGY

The Montana Veterinary Diagnostics Laboratory offers a wide range of clinical microbiology services including microorganism isolation and identification. Additional services rendered by microbiology lab section include antibiotic sensitivity screening and parasite identification. The following table lists the number of microbiology related tests performed in FY2018 and FY2019.

Test Type	FY18	FY19
Campylobacter Culture	2,366	1676
Aerobic Culture	2,038	1788
Trichomonas foetus Culture	2,024	1364
Fecal Flotation	766	694
Salmonella Enteritidis Culture	276	368
Gram Stain	348	331
Salmonella Culture	337	325
Mycoplasma Culture	368	277
Cryptosporidia	171	196
Small Animal Enteric Sensitivity	232	188
Small Animal Staph Sensitivity	220	176
Additional Isolate - Aerobic	150	165
Heartworm ELISA	130	105
Giardia antigen ELISA	81	96
Brucella Culture	177	91
Equine Beta Strep Sensitivity	53	69
Bovine Respiratory Disease Sensitivity	56	63
Small Animal Enterococcus Sensitivity	80	53
Abortion panel	92	49
Small Animal Beta-Strep Sensitivity	69	46
Liver Fluke Sedimentation	5	46
Dermatophyte/PAS	29	35
Bovine Enteric Sensitivity	7	32
Small Animal Pasteurella Sensitivity	21	30
Equine Enteric Sensitivity	21	24
Equine Staph Sensitivity	16	21

T E S T D A T A — M I C R O B I O L O G Y

Test Type	FY18	FY19
Anaerobic Culture	8	14
Small Animal Pseudomonas Sensitivity	28	14
Equine Enterococcus Sensitivity	11	14
Ecto-parasite Exam	10	12
Mastitis Staph Sensitivity	12	8
Direct Microscopic Exam	1	5
Equine Abortion Panel	5	3
Anthrax Lateral-Flow Test	5	1
Equine Alpha Strep Sensitivity	5	3
Coccidia Smear	3	3
Trichinella - Pepsin Degradation	3	3
Dirofilaria immitis	1	3
Bovine Pseudomonas Sensitivity	0	3
Mastitis Pasteurella Sensitivity	0	3
Mastitis Alpha Strep Sensitivity	2	2
Acid Fast Exam	1	2
Mastitis Enterococcus Sensitivity	0	2
Small Animal Sensitivity	8	1
Heartworm Filtration	4	1
Equine Pasteurella Sensitivity	3	1
Bovine Alpha Strep Sensitivity	2	1
Equine Pseudomonas Sensitivity	6	1
Equine Acinetobacter Sensitivity	0	1
Mastitis Beta Strep Sensitivity	0	1
Listeria Culture	1	0
Maceration-Flotation	1	0
Small Animal Acinetobacter Sensitivity	1	0
Small Animal Salmonella Sensitivity	1	0
Bovine Beta Strep Sensitivity	1	0
Total	10,318	8,485

TEST DATA MOLECULAR DIAGNOSTICS (PCR)

Molecular diagnostics is an emerging area in the field of veterinary diagnostics due to the sensitivity and selectivity of these testing methods. Montana Veterinary Diagnostic Laboratory (MVDL) has a robust molecular diagnostics division that provides diagnostic testing for many potentially high consequence animal pathogens. The following table lists the total number of tests performed for FY2018 and FY2019 within the molecular diagnostics section of the laboratory.

Test Type	FY18	FY19
Tritrichomonas foetus Individual PCR	2,910	2,514
Tritrichomonas foetus Pooled PCR	1,409	1,376
Salmonella Enteritidis PCR Screen	698	952
M. avium paratuberculosis PCR	434	382
BVD Pooled PCR	121	197
Bovine Rotavirus/Coronavirus Multiplex PCR	162	196
Avian Influenza Matrix PCR	17	74
BVD Individual PCR	35	68
E. coli K99 PCR	37	47
Tritrichomonas foetus Confirmatory PCR	0	23
Avian Paramyxovirus-1 Matrix PCR	0	1
Avian Paramyxovirus (Matrix) PCR	3	0
Bovine Coronavirus PCR	1	0
Total	5,827	5,830

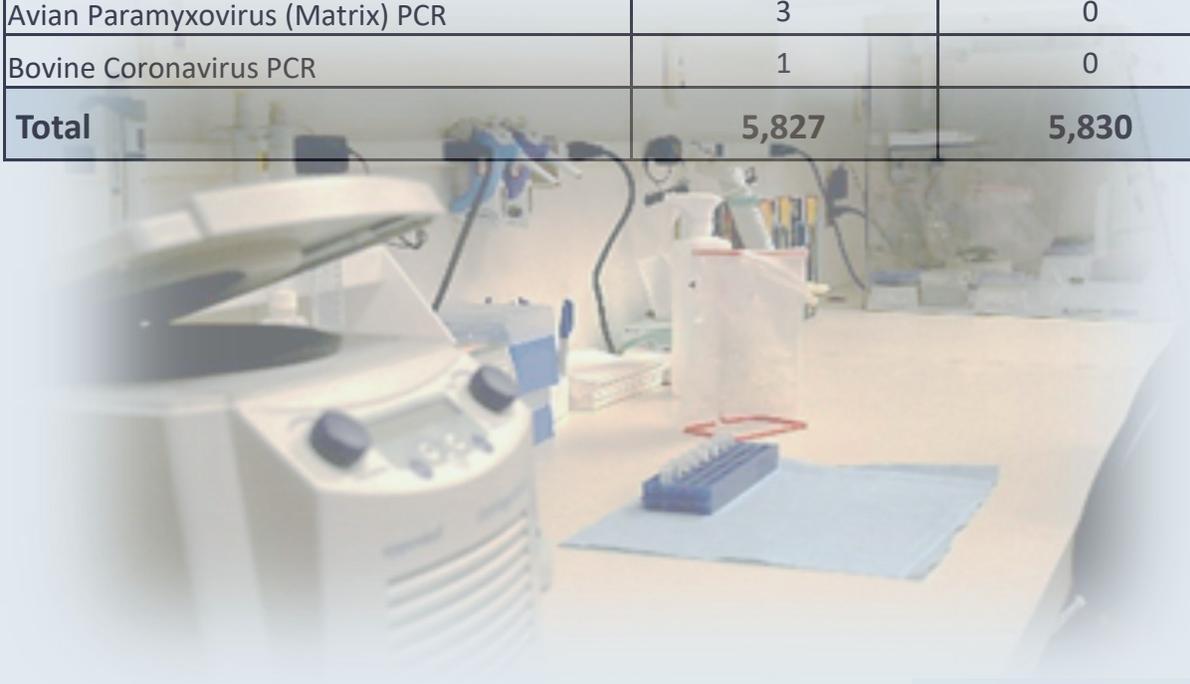


Fig. 11—Lab bench (MVDL)

TEST DATA CLINICAL PATHOLOGY

Clinical pathology at the Montana Veterinary Diagnostics Laboratory helps aid in disease diagnosis, treatment, and prevention via laboratory testing of blood and other biological fluids for a wide range of large and small animals. The following table lists the total number of tests performed for FY2018 and FY2019 within the clinical pathology section of the laboratory.

Test Type	FY18	FY19
Small Animal CBC/Differential	1,249	1254
Canine Small Animal Panel	1,000	1002
Canine Clinical Profile	677	726
Urinalysis	454	413
Canine Thyroid Panel	360	397
Large Animal Chemistry Panel	365	381
Large Animal CBC/Differential	375	362
Feline Small Animal Panel	295	318
Total T4	308	312
Large Animal Profile	293	307
Urinalysis with Culture/Sensitivity	282	274
Dexamethasone Suppression	264	228
Total T4	256	225
ACTH Stimulation	277	203
Cortisol	164	172
Feline Small Animal Clinical Profile	137	163
Phenobarbital	143	110
Thyroid panel	87	87
ALT	1	87
Feline Infectious Anemia	67	69
Feline Profile	67	64
Nitrate (Semi-quantitative)	76	58
Free T4	83	48
Bile Acid	77	42
Fluid analysis	49	42

TEST DATA — CLINICAL PATHOLOGY

Test Type	FY18	FY19
PLI	48	39
Canine Health Screen	43	39
Clin Path comment	70	36
Small Animal Hepatic Panel	62	32
Small Animal Pre-Anesthetic Panel	55	31
Small Animal Pre-Anesthetic Profile	53	30
Feline Health Screen	13	22
TSH	24	18
Activated Partial Thromboplastin Time	12	18
Albumin	8	17
Small Animal Renal Panel	26	16
Calcium	9	15
Prothrombin Time	14	14
Electrolytes	13	13
Radial Immunodiffusion Test for Equine IgG	0	13
Feline Geriatric Panel	12	11
Radial Immunodiffusion Test for Bovine IgG	0	11
Coombs	9	8
BUN	4	8
Total Protein	2	8
Blood Count	7	7
Creatinine	3	7
Cholesterol	0	7
Ck	20	6
Fibrinogen (Heat Precipitated)	11	6
ALP	6	6
Magnesium	5	6
Equine Fitness Profile	2	6
Phosphorous	0	6
AST	19	5
Total T3	4	4
Gamma-glutamyl Transferase	2	4
Globulin	1	4
Canine Endocrine Panel	2	3

TEST DATA — CLINICAL PATHOLOGY

Test Type	FY18	FY19
Feline Anemia Panel	1	3
Large Animal Health Screen	9	2
Amylase	2	2
Expanded Electrolytes Panel	1	2
TCO2	0	2
Reticulocytes	4	1
Total Bilirubin	4	1
Hemotropic Parasite Screen	3	1
Potassium	1	1
Large Animal Hepatic Profile	0	1
Sodium	0	1
Glucose	6	0
CSF analysis	1	0
Direct Bilirubin	1	0
Total	7,998	7,837



Fig. 12—Centrifuge (Pexels.com)

TEST DATA — HISTOLOGY

The histology section of the laboratory provides sample processing for microscopic evaluation of tissues by pathologists. Histochemical stains help identify specific tissue and cellular components. The decrease in immunohistochemical assays between fiscal years 2018 and 2019 is due to a transition period associated with bringing new equipment online to automate this process and provide the opportunity to test for Chronic Wasting Disease. The following table reports the number of histological slides prepared in FY2018 and FY2019 for each type of unique stain.

Test Type	FY18	FY19
Hematoxylin & Eosin	2,592	2237
Slide Processing (number of slides)	303	236
Gram (Brown & Brenn)	161	88
PAS	110	81
CWD Tissue Processing	134	78
Toluidine blue	63	37
Warthin-Starry	24	23
Acid Fast (Ziehl Neelsen)	30	21
Giemsa	34	20
Decalcification	21	19
Melanin Bleach	23	17
GMS	25	10
Acid Fast (Fite's)	9	10
Von Kossa	1	5
Luxol Fast Blue HC	0	5
Congo Red	3	4
CD-3 IHC	15	3
CD-79a IHC	15	3
Masson's Trichrome	5	3
Purl's Prussian blue	8	2
CD-18 IHC	0	2
e-Cadherin IHC	1	1
Oil Red O	1	1
Additional per slide	0	1
Phloxine B Eosin	76	0
Canine Coronavirus IHC	7	0
Melan-A IHC	7	0
West Nile Virus IHC	7	0

TEST DATA — HISTOLOGY

Test Type	FY18	FY19
BVD IHC	9	0
IBR IHC	6	0
Cytokeratin IHC	5	0
Duplicate Hematoxylin & Eosin	5	0
MUM-1 IHC	5	0
MAC-387 IHC	3	0
Toxoplasma IHC	3	0
Gram (Brown & Hopps)	2	0
Mast Cell Tryptase IHC	2	0
Mucicarmine	2	0
Alcian Blue pH 2.5	2	0
CDV IHC	2	0
Chlamydia IHC	2	0
Factor VIII IHC	2	0
Alcian Blue pH 1.0	1	0
BCV IHC	1	0
BRSV IHC	1	0
Fontana Masson	1	0
Gimenez	1	0
Jone's Basement Membrane	1	0
Lambda light chain IHC	1	0
Rhodanine	1	0
S100 IHC	1	0
Turnbull blue	1	0
Vimentin IHC	1	0
Total	3,768	2,907

Fig. 13—Tissue Blocks (MVDL)

S E R V I C E F E E S — P A T H O L O G Y

The Montana Veterinary Diagnostics Laboratory offers a full spectrum of pathological services including large and small animal necropsies, abortion investigation, cytology, histopathology for surgical biopsies and necropsies, and other ancillary testing. Our board certified pathology staff is always available for consultation upon request. The following table shows a comparison of FY2018 and FY2019 for all pathology services provided .

Service	FY18	FY19
Carcass Disposal (lbs)	28,432	30,134
Case Summary	3,032	2,622
Histopathology 1-3 slides	2,283	1,873
Additional Information	501	373
Cytology	313	313
Histopathology 4-6 slides	139	156
Ruminant Diarrhea Panel (6-21d)	96	115
Necropsy Small Animal	46	52
Histopathology 7-10 slides	37	45
Fetal Necropsy	41	44
Ruminant Diarrhea Panel (1-5d)	22	32
Necropsy Large Animal <150#	15	26
Remains Return/Transfer	3	25
Necropsy Other Species	33	22
Diarrhea Panel (>31d)	10	22
Histopathology >10 slides	11	18
Necropsy Large Animal <500#	15	17
Ruminant Diarrhea Panel (<30d)	9	17
Necropsy Large Animal >500#	19	14
Insurance/Legal case hourly fee	3	12
Necropsy Small Ruminant >20#	5	2
Necropsy Small Ruminant <20#	4	2
Necropsy Swine <250#	1	1
Equine/Porcine Diarrhea Panel (1-5d)	1	1
Necropsy Swine <25#	0	1
Spinal Cord Removal Small Animal	0	1
Spinal Cord Removal Large Animal	0	1
Equine Diarrhea Panel (6-21d)	1	0
Total	35,072	35,885



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