

Animal Health Monitor

NOVEMBER 2011



Articles of Interest:

- **Farm salmon medical records**
- **Changes to the Prevention of Cruelty to Animals Act**

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Editorial by Dr. Paul Kitching

To those of us working in the business of animal disease surveillance and diagnostics, maintaining the trust of our clients is essential. Our ability to detect new diseases depends in great part on our clients either submitting diagnostic samples directly to us, or allowing us onto their property to collect diagnostic material from their animals. We recognize that in nearly all cases this cooperation is voluntary, and it is viewed to be of value to everyone.

In the case of the Abbotsford Animal Health Centre, we are funded by the taxpayer to maintain an oversight of the animal health within the province. In so doing we are able to provide the livestock industry with a first class diagnostic service that will identify disease problems which can be managed and even avoided, thereby reducing animal suffering, and increasing returns for the livestock owner, and indirectly the province. A good relationship with animal owners helps us rapidly identify developing infectious disease outbreaks and bring them under control before they have spread. We can also alert our Public Health colleagues to animal disease issues which could threaten human health.

But maintaining trust between government and animal owners includes protecting the medical records we generate

from the diagnostic samples we examine. In many ways animal health records are as personal to owners as are their own health records, the confidentiality of which is acknowledged by all. The physician needs to know the health of the patient for effective treatment, and similarly the correct treatment of animals requires accurate diagnosis. If a highly infectious disease is identified, appropriate measures must be applied to stop spread to neighboring animals.

But should animal medical records be in the public domain? If the public were fully able to understand diagnostic results, they would not need their physician to interpret them and advise suitable remedies. Why would an accountant or house builder spend time taking courses in virology, oncology, or toxicology, when they are paying their physician to do just that? They trust their physician to tell them in English what the problem is and how to address it. The veterinary profession does the same for animals, through the intermediary of their owners.

If identifiable human health records were posted on the internet, how long would it be before it was used to exclude certain dinner guests, or school friends of your children. Whether out of ignorance or misplaced fear, cer-



tain individuals would be ostracized by society. The same applies to animal health records, except there is the additional dimension that pressure groups misrepresent the data in support of an agenda, as we have seen by the anti farmed salmon lobby. How many of the public actually understand diagnostic pathology and virus identification procedures? In this issue our fish pathologist, Dr. Gary Marty, provides three specific examples of how medical records released to the public were not interpreted correctly in the mainstream media, thereby misleading the public. Dr. Marty also describes our successful efforts to clarify these issues.

Animal health records must be protected as closely as human health records if we are to effectively maintain surveillance of diseases in the province. It is in everyone's interest to do so, except those that would like to falsely manipulate public opinion to their own ends.

Responding to Media Misrepresentation of Medical Records

by Dr. Gary Marty

Most farm salmon medical records generated by the Animal Health Centre from 2006 - 2010 were entered into evidence during the Cohen Commission hearings in August and September, thereby making the records freely available to the public. The Cohen Commission is the federal judicial Inquiry into the decline of the sockeye salmon in the Fraser River.

As the veterinary pathologist that signed off on nearly all of these records, I told our clients:

"The release of farm salmon medical records directly into the public domain represents a new and uncharted frontier in medicine. I anticipate that these medical records will be misrepresented to the public."

I want to assure you that whenever the mainstream media misrepresents provincially generated farm fish medical records, I am committed to respond rapidly, vigorously, and professionally to protect my interests, your interests, and the public. This is my policy with any client, including any client supporting investigation of wild fish diseases."

Although it is not common for provincial government

employees to write letters to the editor or give radio or TV interviews, the ethical guidelines of the College of Veterinarians of BC clarify the need to educate the public: "Members should make efforts to contribute to the education of the public in matters relating to and promoting the health and safety of animals and thereby the public..."

On September 6, 2011, the Victoria Times-Colonist published a column, "Hell to pay for letting ISA virus into the Pacific" that was based on nonspecific lesions in Animal Health Centre records. At 9:14am on September 7, I sent a letter to the editor stating that "every one of the hundreds of fish...in the provincial fish health database was tested for the ISA virus using a highly sensitive and specific PCR test. All fish tested negative (no virus). From 2003 - 2010, the Province tested 4,726 dead farm fish for the ISA virus, and all fish tested negative (no virus)." Later on September 7, the Times-Colonist printed a correction to the column, and on September 8 they printed my letter.

The front page of the Sept 22 - Oct 5 edition of the "Island Tides" newspaper included a commentary by

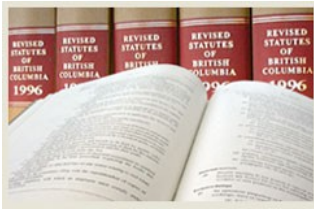
Alexandra Morton that stated that DFO scientist Dr. Kristi Miller "found what appeared to be tumours in the Fraser sockeye." I did the histopathology on these fish. A summary of my findings was published in the next edition of the newspaper: "... the 'tumours in the Fraser sockeye' were simply a result of bleeding in the brain—not cancer—that occurred when the fish were sampled. Many fisherman and scientists humanely kill fish using a 'bonk on the head', and bleeding in the brain is a common result."

On October 12, 2011, CBC radio (Halifax) aired an interview with Alexandra Morton in which she expressed concern about "Salmon Leukemia" in Animal Health Centre medical records. I responded the same day in writing, "I want to clarify that I did not diagnose Salmon Leukemia in these fish. Instead, I reported common kidney lesions that occur in fish with a variety of diseases that include anaemia and inflammation. The fish with these kidney lesions had other diseases, but not Salmon Leukemia." My October 17 interview with the CBC host was aired on October 18.



Dr. Gary Marty

"In each of these three cases, the public was better informed when they read or heard the side of the story from the board-certified Veterinary Pathologist that made the original diagnosis?"



The statute also provides for a new mandatory requirement for veterinarians to report suspected animal abuse

A copy of the entire *Prevention of Cruelty to Animals Act* is available at

http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/free-side/00_96372_01

Prevention of Cruelty to Animals Act Amendments by Heather Anderson

A number of provisions were made to the *Prevention of Cruelty to Animals Act* that received Royal Assent on June 2, 2011. The amendments provide for:

- New, higher penalties to punish/deter offences relate dot animal abuse and cruelty;
- New ability to prohibit certain activities and establish codes of practice and minimum standards of care for sled dogs, and in the future, for other animals;
- New offence provisions to enable enforcement action to be taken against those violating new prohibitions and codes of practice;
- New, longer limitation period within which offences under the Act may be brought forward for prosecution;
- Special protection for law enforcement, and in the future, other service animals.

The statute also provides for a new mandatory requirement for veterinarians to report suspected animal abuse, Section 22.1, as well as protect them when they do, Section 24.02.

The authorized agents that the veterinarians would report the suspected abuse to are the Special Provincial Constables of the BC Society for the Prevention of Cruelty to Animals (SPCA) if the veterinarians have an SPCA in their area or any RCMP/police force in areas where the SPCA is not present.

Any questions or concerns regarding these amendments can be directed to the Policy Unit of the Ministry of Agriculture, 808 Douglas St. Victoria BC V8W 9B4.

Duty to report distress

Section 22.1: A registered veterinarian who believes on reasonable grounds that a person responsible for an animal is, or is likely, causing or permitting the animal to be in distress in contravention of this Act must promptly report, to the best of the registered veterinarian's knowledge and belief all of the following information to an authorized agent: (a) the reason for believing that an animal is in distress; (b) sufficient information to contact the person responsible for the animal, including the person's name and address; and, (c) sufficient information to identify the animal.

Defence

Section 24.02 A person must not be convicted of an offence under this Act in relation to an animal in distress if (a) the person is (i) a registered veterinarian, (ii) an employee of a registered veterinarian who is acting under the supervision of the registered veterinarian, or (iii) an enrolled student of veterinary medicine who is an employee of a registered veterinarian and is acting as authorized by the registered veterinarian, and the person is practising veterinary medicine in accordance with the standards of the profession, (b) if the person is an operator, the distress results from an activity that is carried out in accordance with the prescribed standards of care that apply to the regulated activity in which the operator is engaged, or (c) the distress results from an activity that is carried out in accordance with reasonable and generally accepted practices of animal management that apply to the activity in which the person is engaged, unless the person is an operator and those practices are inconsistent with prescribed standards.

West Nile Virus by Dr. Brian Radke

West Nile Virus is a flavivirus and was first detected in BC in 2009. In the last 3 years, the virus has been variably found in humans, birds, mosquitoes and horses. Information on WNV surveillance is available at http://www.bccdc.ca/dis-cond/a-z/_w/WestNileVirus/Surveillance/WNV2011Surveillance.htm.

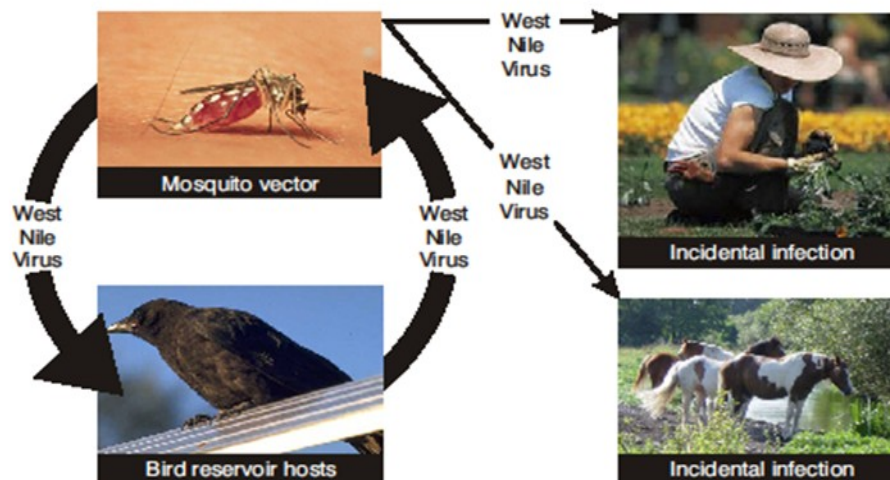
The virus is maintained by a natural amplification cycle involving various species of mosquitoes and wild birds. The virus amplification cycle is climatically dependent on such factors as cumulative heat units and rainfall which impact mosquito populations and activity. Via WNV infected mosquitoes the virus spills over to mammalian species which are considered dead-end hosts as the resulting viremia is inadequate for transmission of the WNV to feeding mosquitoes. Horses

and humans are two dead-end hosts noted to be particularly susceptible to WNV infection and serve as sentinels of WNV's presence. Among infected humans and horses the infection will range from sub-clinical to fatal clinical disease. Non-mosquito-borne transmission to animals and humans is very rare. Although evidence of fecal and oral shedding of WNV by infected animals suggests the potential for zoonotic transmission.

Clinically affected horses manifest with neurological symptoms. Clinical signs of WNV infection in horses include ataxia, depression, circling, hind limb weakness, recumbency or inability to stand, blindness, lip droop/paralysis, teeth grinding, muscle fasciculation, and fever. There are a number of potential tests for WNV infection in horses. None of the tests have 100% sensitivity and specificity

so, as with any test, care must be taken in interpretation of the test results. In addition to the clinical signs, consideration of WNV infection as a differential diagnosis and interpretation of WNV diagnostic tests should consider the epidemiology of the disease including the horse's WNV vaccination history and status, the animal's location and travel history, environmental data and evidence of the virus in other species. For example, in 2011 the virus was not found in mosquitoes, birds or humans.

Veterinarians are reminded that WNV in horses is a CFIA immediately notifiable disease (for more information see <http://www.inspection.gc.ca/english/anim/dise/mala/wnvno/wnve.shtml>). Laboratories are required to contact the CFIA regarding the suspicion or diagnosis of such diseases.



Staff Profiles

Brian Radke, Public Health Veterinarian

Brian Radke joined the BC Ministry of Agriculture this summer as a public health veterinarian. For the previous six years, Brian was the public health veterinarian at the BC Centre for Disease Control in Vancouver.

Brian graduated from WCVM in 1989 and spent five years in private veterinary practice in Ontario and the Fraser Valley with a focus on dairy herd health. Following a PhD in Agricultural Economics from Michigan State University,

he was employed by Alberta Agriculture as a dairy cattle research veterinarian and a research economist.

Brian is leading the Ministry's Johne's disease project to increase awareness of the disease among industry. The project includes a risk assessment and free Johne's and BVD testing for BC cattle producers. He is also very involved in multidisciplinary and intergovernmental discussions on antimicrobial usage in animals and its impact on antimicro-

bial resistance of human pathogens. As the public health veterinarian, Brian gets involved in a number of other public health issues, for example West Nile Virus (WNV) cases.

When not at work Brian enjoys spending time with his wife, who is also a veterinarian, two young (3 and 6 year old) daughters and one old dog. Brian's interests include working around the house, cabinetry, wind surfing and west coast art.



Erin Zabek, Senior Laboratory Scientist

Erin started with the Ministry of Agriculture on July 8, 2002 as a Lab Health Science Officer in the Bacteriology department. Along with continuing to do her current job, Erin was recently the successful candidate for the Senior Laboratory Scientist position. She is responsible for overseeing the day to day operations of all the laboratories at the Animal Health centre and is the direct supervisor for Necropsy, Serology, Toxicology, Histopathology and the Containment Level 3 Laboratory.

Erin graduated with a Bachelor of Science, majoring in Microbiology from the University of Waikato in New Zealand. She worked in a private medical laboratory in NZ for 3 ½ years before returning to

Canada in 2001, where she worked for six months at UBC Virology at St. Paul's hospital.

Erin enjoys the diversity of veterinary diagnostics, not knowing what will come in next and what the diagnostic investigations will uncover. She is excited about applying her knowledge and experience gained over the years and looks forward to the challenges her new position will present and is confident that she will make a difference.

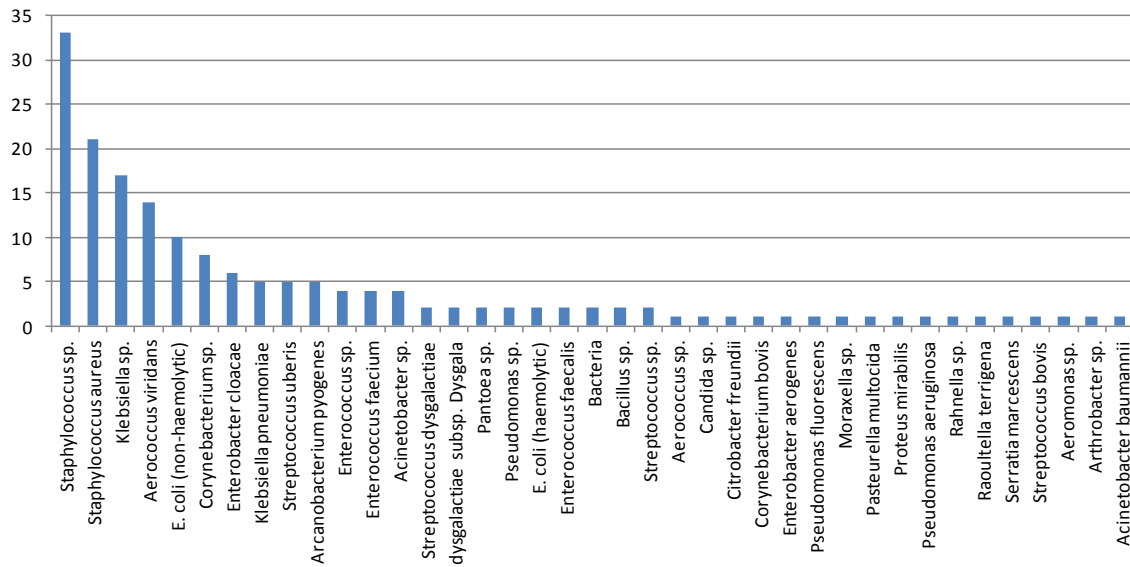
She is also committed to enhancing the workplace environment by sitting on the social committee for the building, and for the last two years has organized a booth for the Pacific Agriculture Show, that showcased the lab.

Outside of work, Erin loves to travel and read.



We would like to acknowledge Dr. Mira Leslie for her work on publishing the Animal Health Monitor for the past two years

Mastitis Culture Results by Dr. Jane Pritchard



January 2011 to October 24, 2011 - Results of milk cultures sorted by frequency of isolation. BCAGRI Animal Health Centre.

Between January 1 and October 24, 2011, 1012 milk samples (74 submissions) were received for culture and sensitivity at the Animal Health Centre. Out of the 1012 samples submitted, no bacteria was isolated in 592 samples.

Resistance by Isolate	amp	kf	ob	e	xnl	p10	pyr	sxt	tet	# of isolates tested
Staphylococcus sp.	58%	0%	21%	6%	0%	55%	39%	6%	18%	33
Staphylococcus aureus	24%	0%	5%	5%	0%	24%	5%	0%	5%	21
Klebsiella sp.	112%	35%	112%	112%	24%	112%	112%	6%	53%	17
Aerococcus viridans	0%	7%	93%	21%	7%	0%	29%	79%	71%	14
E. coli (non-haemolytic)	70%	70%	100%	100%	20%	100%	100%	10%	30%	10

amp - ampicillin	ob - cloxacillin	xnl - excenel	pyr - pirlimycin	sxt - sulfamethoxazole/trimethoprim
kf - cephalothin	e - erythromycin	p10 - penicillin	tet - tetracycline	

The results of the 5 most frequently isolated organisms are presented in the chart above. Although *Arcanobacterium pyogenes* was isolated 5 times, sensitivity patterns are not run on this organism. Its slow growth on culture causes the results of the sensitivity test to be unreliable.

Fraser Valley Livestock Movement Snapshot Project by Dr. Jane Pritchard

British Columbia is developing animal movement information as part of an on-going program contributing to a strategic plan for monitoring and controlling animal disease. This project is focused on developing information to map animal movement in the Fraser Valley area of BC to facilitate effective animal movement restrictions when required. The initial step of completing a needs and knowledge gaps assessment has been completed and existing data sources have been identified for the following livestock industries: dairy cattle, beef cattle, sheep, goats, bison, swine, and commercial specialty non-regulated poultry (ducks, squabs, quail, and partridge).

The motivation for this project came in part from a meeting of government and animal industry representatives in Abbotsford in October 2009 to discuss

how to best prepare British Columbia to respond effectively should there be an outbreak of a highly infectious disease, like Foot and Mouth Disease within the Fraser Valley. One of the key requests coming from the meeting was for BC to gain a better understanding of livestock movement in and through the hub of the Fraser Valley. Knowing the 'traffic patterns' of livestock movements in the province would help government and industry respond faster to a foreign animal disease incursion with more effective temporary movement restrictions in order to prevent and limit disease spread. Knowing livestock movement patterns, then, is a key part of a BC biosecurity plan that would allow the livestock industry to resume normal trade as soon as possible after a foreign animal disease outbreak.

This project will produce:

- A database containing one-year of livestock movements within, into, and out of the Fraser Valley compiled from existing and accessible data sources
- A schematic of the network of livestock movements that occurred over a one-year period for each livestock species, with movement hubs identified
- A plan for capturing livestock movement data at future time points to create new movement network snapshots
- A description of the data collection methods used for each livestock industry



Animal Health Centre
1767 Angus Campbell Road
Abbotsford BC V3G 2M3

Toll free (BC only):
1-800-661-9903
Phone: 604-556-3003
Fax: 604-556-3010

To receive this newsletter electronically, contact
Lynette.Hare@gov.bc.ca

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<http://www.agf.gov.bc.ca/ahc/AnimalHealthMonitor.html>

Send correspondence to: Debra Sand

Email: debra.sand@gov.bc.ca
Phone: 604-556-3023
Fax: 604-556-3015