

Great Lakes Fish Health Committee Summer Meeting

Courtyard Marriott, Glenview, IL

Agenda

Wednesday August 19, 2009

- 9:00-9:15 am** **Welcome (E. Wright)**
 Introductions and housekeeping (coffee, lunch, etc)
- 9:15-9:30 am** **Approval of Meeting Minutes (E. Wright)**
 January 2009 – Annual
 February 2009 – *Nucleospora* conference call
- 9:30-10:00 am** **Committee Business (E. Wright)**
 2009 Correspondence
 Membership changes
 Technical advisor - request to add Dr. Hedrick
- 10:00-10:15 am** **CLC Update (Dettmers)**
 GLFHC report & Terms of Reference presentations to CLC in April
 CLC risk assessment framework (potential for GLFHC involvement)
- 10:15-10:30 am** **Cross basin issues (E. Wright)**
 ON-NY live bait
- 10:30-11:30 am** **EEDv (Marcquenski)**
 Update, screening and research priorities

Lunch 11:30–1:00 pm

- 1:00-2:00 pm** **Guest speaker (Dr. Bev Schmitt, NVSL, USDA-APHIS)**
 Topic: NVSL and overarching issues facing NVSL
- 2:00-2:30 pm** **Basinwide Coolwater Egg Disinfection Protocol Update (Phillips)**
 Status
 LaCrosse experiments (Phillips)
 New information (All)
- 2:30-3:00 pm** **Standardization – (E. Wright)**
 Field protocols, lab methods, etc

Break 3:00–3:15 pm

- 3:15-5:30 pm** **Agency Updates – (E. Wright) – 15 minutes each**

Adjourn at 5:30 pm

Thursday August 20, 2009

8:30-9:00 am ***Nucleospora salmonis* Update (Phillips/All)**

Detection/testing locations

Map

9:00-9:30 am **CTV (Phillips/All)**

Detection/testing locations

Map

9:30-10:15 am **VHS update and status (E. Wright/All)**

Current distribution, new detections, sampling in 2009

Map

Break 10:15-10:30 am

10:30-11:00 am **KHV (E. Wright/All)**

Detection/testing locations

Map

11:00-11:15 am **Model Program (E. Wright)**

Update from subcommittee on next steps to move forward

11:15-12:15 noon **Research Priorities (Phillips/E. Wright)**

Update from subcommittee (Phillips)

Refine priorities (E. Wright)

12:15-12:45 pm **Networking and communications with regional committees (Phillips)**

Opportunities to share information

12:45-1:00pm **Review of status on Action Items (E. Wright)**

Items completed

Items carried over from previous meetings

New items identified at August meeting

1:00-1:15 pm **Next meeting (E. Wright)**

Lunch 1:15-2:00 pm

Adjourn by 3 pm

Minutes: August 19-20, 2009, Glenview, IL

Attending: Elizabeth Wright (OMNR), Ken Phillips (USFWS), Greg Wright (CORA), Larry Willis (IL DNR), Martha Wolgamood (MDNR), Andy Dwilow (DFO), John Coll (USFWS), Mohamed Faisal (MSU), Roy Johannes (MN DNR), Ling Shen (MN DNR), Dave Meuninck (IN DNR), Sue Marcquenski (WDNR), and John Dettmers (GLFC)

1. Approval of previous meeting minutes
 - a. January 2009 minutes approved pending minor revisions – ACTION: E. Wright
 - b. February 2009 conference call minutes approved pending revisions to note about Madison lab being able to detect all strains of VHS - ACTION: E. Wright
 - c. Suggestion to invite Ron Hedrick to January 2010 meeting to discuss results of Nucleospora workshop
 - d. Continue to add meeting notes (current as available and past as resources permit) to the web site – ongoing request to GLFC
2. Committee Business
 - a. GLFHC supported a research proposal on flavobacteria submitted to the Great Lakes Fishery Trust
 - b. Review of membership list. No changes. ACTION: Dettmers to send out and update website
 - c. Consider Ron Hedrick as technical advisor (discussed on Aug 19 and 20)
 - i. Follow-up discussion on Thursday AM
 1. The committee values advice from technical experts
 2. Hedrick has provided valuable advice to the committee in the recent past
 3. Members present are supportive of including Hedrick as an advisor
 4. Suggestion to approach Hedrick to determine willingness to serve and to make sure he understands there is no monetary reimbursement. Options put forward that Chair or nominator to make contact.
 5. ACTION – E. Wright will contact other members not present to determine their perspective
3. CLC update
 - a. TOR approval provisionally agreed upon by CLC
 - i. Discussion about CLC suggestion that consensus is not a prerequisite to providing complete information to CLC
 - ii. ACTION: J. Dettmers to follow up with CLC for clarification
 - b. Risk assessment from CLC
 - i. GLFHC willing and able to contribute
4. Cross-basin issues

- a. NY anglers were not permitted to use NY certified bait for fishing in ON and this issue was publicized in the NY media (see attached: Live-bait rules in Canadian waters...).
 - i. A longstanding regulation prohibits bringing live baitfish into ON.
 - ii. Enforcement activities have changed to support biodiversity concerns and are not related to VHS specifically.
 - iii. ON does not have VHS-free bait.
 - iv. This is a similar problem being faced in MN and MI.
 - b. MN hosting Midwest in 2010 – Payer considering baitfish symposium
 - i. VHS and baitfish has become a high profile issue in MN
 - ii. MN has developed VHS zones within the state
5. EEDv
- a. PCR method
 - i. 100% prevalence from samples tested. All fish sampled were healthy, good gill quality, etc.
 - ii. WI decision to stock fish – no active disease
 - iii. Open call from Hedrick to FHC members for any archived epithelial tissues to test
 - b. Concern from federal agencies about whether tests are detecting the old virus.
 - c. Model Program says destroy, disinfect, and start over (text in next version of draft Model Program will be informed by recent science advances).
 - i. MI will start testing fish
 - d. Lots of changes since the outbreaks observed in the 1980s
 - i. Hatcheries rearing fewer, but larger (better quality) LAT
 - ii. New diagnostic tool (Hedrick's PCR)
 - iii. Changes in the virus? And why we have not seen outbreaks of EED since the 1980s. The questions could be reflected in the Model Program text.
 - e. Research needs
 - i. What is epidemiology of the virus?
 - ii. Species susceptibility testing of 20-25 yrs ago may be inaccurate
 - 1. Chinook salmon do carry the virus and may get a little sick
 - iii. Links between current virus and disease?
 - iv. What is the significance of this virus?
 - v. How to encourage testing without first changing policy?
 - 1. Look in wild fish first – suggest this is high priority
 - f. Screening
 - i. WVDL is constrained by budget and won't be able to develop the PCR screening tool
 - ii. La Crosse lab will use screening tool for testing wild fish from lakes Huron and Michigan

- iii. MI testing
 - iv. MN wants to but needs material
 - v. NY wants to test wild fish from Lake Ontario
 - vi. Each lab asked to communicate with Hedrick to get protocols/materials
 - 1. Discussion of need to establish small committee to determine tissues to be sampled. Decided this is not needed. Labs will communicate with each other and with Hedrick.
6. Guest speaker: Dr. Bev Schmitt – National Veterinary Services Laboratory Overview (see attached slide deck)
- a. Structure
 - i. Labs
 - 1. Diagnostic bact lab
 - a. Serology
 - b. Bact ID
 - c. Mycobacteria and Brucella
 - d. Tech support (media prep)
 - 2. Diagnostic Virology
 - a. Avian viruses
 - b. Bovine, porcine, aquaculture
 - c. Equine/ovine
 - 3. Pathobiology
 - a. Diagnostics for TSEs
 - b. Other program support
 - 4. Foreign animal Disease Diagnostic lab (Plum Island)
 - a. Diagnostic services
 - b. Reagents and vaccine
 - ii. Director's Office
 - iii. Admin mgmt and program support
 - b. NVSL Activities
 - i. Diagnostic testing is main activity
 - ii. Supply reference reagents to other labs
 - iii. Training in diagnostic techniques
 - iv. Proficiency testing of other labs
 - v. Consult of agents/techniques
 - vi. Conduct developmental projects to improve diag techniques
 - vii. OIE participation
 - viii. OIE reference lab
 - c. OIE
 - i. Reference organization for the World Trade Organization w/174 members
 - ii. Promote transparency

- iii. Recently has expanded its scope
 - iv. Aquatic and terrestrial animal health standards commissions
 - 1. Aquatic
 - 2. Biological Standards Commission
 - 3. Determination of validated assays for trade purposes
 - d. National Animal Health Lab Network
 - i. Cooperative effort
 - ii. Purposes
 - 1. Early detection
 - 2. Rapid response
 - 3. Appropriate recovery
 - e. Aquaculture activities
 - i. Lab approvals for selected diseases/trade purposes
 - ii. Confirmatory testing for aquatic diseases
 - iii. Ongoing diagnostic testing
 - iv. Vaccine evaluation
 - f. Program similarities
 - i. NVSL is APHIS aquatic health reference lab due to trade requirements
 - ii. Responsibilities
 - 1. Reference lab
 - 2. Confirmatory testing
 - 3. Validate/evaluate new
 - 4. Quality assurance practices and test validation assure valid results for trade and program surveillance
 - 5. All responsibilities of ref lab are similar for aquatic and terrestrial diseases.
 - g. Misc.
 - i. Proposed aquatic animal health lab network
 - ii. Use NAHLN as template
 - iii. Focus on quality assurance and standardized tests
 - h. Discussion
7. Coolwater egg disinfection protocol update
- a. North Central Regional Aquaculture Center funding to USGS/USFWS
 - b. Used protocol to treat northern pike and walleye. Added bentonite clay as de-clumping agent for walleye
 - c. Virus titre was 10^5 and 10^9 (2 treatments) – 30 min infection period – after spawning
 - d. Iodophore treatment groups (4 treatments all at 100 ppm) – all fry negative for virus
 - i. Concentrations verified and maintained

- e. Iodophore disinfection groups were negative for the virus
- f. Detection by cell culture
- g. Future:
 - i. Yellow perch, musky
 - ii. Tannic acid
 - iii. Periods of virus exposure
 - iv. Suggest testing use most susceptible species and keep offspring for at least 6 months and re-test because it could take this long for virus to replicate enough to detect presence

8. Standardization

- a. This starts with proficiency testing – but where to go from there?
- b. This is a huge issue. Clients need to know their results are “correct” and that there is consensus among labs.
- c. Follow proficiency testing with standardization.
- d. Discussion of current standard tests used following AFS Blue Book, DFO Manual of Compliance, and/or OIE standards. The standards are important, but details (e.g., pipette size used) may not be critical.
- e. Discussion about labs in the basin having future involvement with Canadian and U.S. federal National Aquatic Animal Health Programs (NAAHP) and need for ISO 17025 certification of labs involved with testing for NAAHP. This will mean following specific standard operating procedures and will require considerable work to meet standards
 - i. Took months for DFO Winnipeg lab to develop practices that will comply with ISO 17025 and have hired a Quality Manager to help ensure compliance.
- f. Suggestion to get APHIS and CFIA reps discuss respective NAAHPs at January meeting
- g. Need to develop sets of ideas to flesh this out for further discussion at next meeting. Need for a straw dog beforehand and possibly to take ideas to APHIS.

ACTIONS:

- i. Faisal to speak with Bev Schmitt
- ii. Phillips to speak with Guppy Blair
- iii. Coll, Phillips, Faisal to draft straw dog in form of letter to APHIS

9. Agency updates

- a. IN
 - i. Grant from APHIS to do VHS surveillance. All negative (5 lakes/rivers outside of basin)
 - ii. Transport of summer run steelhead across state line (St. Joseph River) is an issue
 - 1. Movement across state line with VS-127 form this year

2. UV disinfection of source water

- b. MN
 - i. Furunculosis outbreak at Crystal Springs. Will need to depopulate brood stock
 - ii. VHS surveillance continuing with APHIS funding – 60 waterbodies
 - iii. Test ovarian fluids from private hatcheries – good cooperation.
 - iv. Disinfection of walleye eggs (100 ppm for 10 min) likely produced better survival – 20 million surplus fry
 - v. Second grant application from APHIS for early detection mode
 - 1. Choose sites that would most likely be hit by virus
 - vi. VHS regs established in fall 2008
- c. USFWS Region 5
 - i. VHS surveillance at 92 sites: 3000 fish and 12 of 13 states involved - No VHS found
 - ii. Opportunistic surveillance for Nucleospora
 - iii. Allegheny NFH still down
 - 1. FWS got funds so now have all the funds to bring back on line, with fish coming back into the hatchery in 2010
 - 2. Construction not yet started
- d. WI
 - i. APHIS funded surveillance at 27 sites - No VHS
 - ii. Smallmouth bass in Sturgeon Bay were positive for VHSv
 - iii. Nucleospora and Wisconsin Veterinary Diagnostic Laboratory
 - 1. Changes in PCR protocol to refine
 - 2. Some fish from last year may not have been positive for Nucleospora
 - 3. Will continue to look for this
 - iv. Newly built hatchery at Wild Rose
 - 1. Coho: no BKD + fish
 - a. Very positive!
- e. DFO
 - i. Brian Souter has retired and replacement research scientist is Sharon Klujay.
 - ii. Level 2 lab renovations done
 - 1. No wet lab capability there
 - iii. Carp kill (2 of 5 fish sampled) in Lake Manitoba in 2008 - KHV present
 - iv. DFO tested fish for VHS survey conducted by Canadian Food Inspection Agency in 2 Quebec lakes in spring 2009 – no positive fish found. Expect to test fish in the fall but specifics of the plan are not known.
- f. MI

- i. Fish kills - Reports are way up after VHS
- ii. Brood stock screening - Incidence of pathogens is declining
 - 1. Vaccinated for BKD, A sal, etc.
- iii. EEDv testing - at least a few lean lake trout from Lake Superior
- iv. Expanded coolwater fish production
 - 1. Now to 6 million fry ~20% of historic levels
 - 2. Musky
- v. One private facility tested + for whirling disease
- vi. Lake St Clair die-off this spring
 - 1. VHS isolated from SMB in high titers
 - 2. VHS from ovarian fluid of a musky
- vii. Diporeia problem – brain protozoa
 - 1. Faisal seeking funding to pursue
 - 2. Manuscript in development
- viii. Lake whitefish mortality study ~ 20 manuscripts will be published in Journal of Great Lakes Research Special Issue
- ix. VHS Surveillance
 - 1. From farms – no VHS
 - 2. From DNR 108 lots – One positive from brown bullhead in Baseline Lake
- x. VHS
 - 1. Highly susceptible: musky, largemouth bass
 - a. Cisco are more susceptible than musky
 - 2. Intermediate susceptibility: yellow perch, brook trout, splake
 - 3. Not susceptible: coho, Chinook, Atlantic salmon
 - 4. Antibody work

g. IL

- i. Few health problems this year
 - 1. Chinook salmon received from WI this year
- ii. Consensus on Great Lakes issues is sometimes difficult for IL because so much of the state is outside the basin and perspective may be different in various locations of IL
- iii. Most of IL hatchery program at Jake Wolf SFH
 - 1. Coho, Chinook, brown trout, northern pike, musky, walleye, etc.
 - 2. Classification of the hatchery will drop to C because the hatchery runs both cool water and warm water fish.
- iv. VHS
 - 1. All fish checked before movement
 - 2. VHS surveillance through Southern Illinois University (SIU)
 - 3. Willis and S. Shults are the competent authorities for IL

- a. Trained SIU personnel to screen fish for private aquaculture
 - b. SIU also surveys fish from the watersheds and from 9 farms in southern IL
 - 4. So far, no positive findings
- v. Conducted sampling in response to a fish kill – no causative agent confirmed
 - 1. Fish in poor condition
 - 2. Did the work, but can only do so much with the material received – fish were severely dead!
- h. CORA
 - i. New Sault tribe tribal chairman
 - 1. Hope for improved budget situation
 - ii. Started using tannic acid for walleye disinfection this year instead of Fuller's earth
 - 1. 50 ppm iodophore for 30 min with water hardening
 - 2. Eggs were surprisingly clean and no fungus developed
 - 3. Eggs appear darker than normal – initially thought they were dead, but it's the tannic acid
 - a. MN also sees this color change in eggs when using tannic acid
- i. USFWS Region 3
 - i. Nucleospora
 - ii. Neosho NFH in Missouri (raises pallid sturgeon) were examined
 - 1. Papillomas (waxy, semi-solid) found but then disappeared from fish in about 3 weeks
 - 2. Seen before but nobody knows what it is
 - iii. No VHS findings this year
 - 1. Nothing in sea lamprey (sampled a few hundred)
- j. GLFC
 - i. Asian carp are getting closer to the dispersal barrier
 - 1. Detection through environmental DNA sampling just below the last lock and dam below the electric dispersal barrier
 - 2. Carp are closer to the barrier than previously thought
- k. ON
 - i. No carp die-offs resulting from KHV
 - 1. Virus was detected in fish so is still present
 - ii. Bacterial gill disease issues in the hatcheries, especially for Atlantic salmon
 - iii. Unknown virus found in wild Chinook in fall 2008 is a rhabdovirus

1. Wild spawners were returning to the Credit River
 2. University of Guelph has done some infection trials.
 - a. Results examined to date show no mortality in rainbow trout or Chinook salmon.
 - b. There were coho mortalities and virus was recovered from the mort
 3. Egg take from Credit River Chinook salmon will occur again this year
 - a. As was done last year, adults will be tested, eggs will be isolated as much as possible from other fish and progeny will be tested several times before stocking
 - b. If no virus is detected in progeny the fish will be stocked.
 4. NY tested fish progeny from Salmon River in 2009 – no positives
 5. Have secured limited research funds to test Chinook salmon from additional locations in 2009
- iv. Policy issues
1. ON Ministry of Agriculture, Food and Rural Affairs (OMAFRA)
 - a. Proposed draft legislation on animal health (includes fish)
 - b. May allow for regulation of fish movement within ON
 2. Issue of management authority over British Columbia aquaculture industry went before the courts. Request was to have federal government responsible (years ago management was delegated to the province)
 - a. Court ruled the federal government is responsible and transfer of authority must take place within a year.
 - b. Fallout uncertain

10. *Nucleospora*

- a. Issues at Pendill's Creek and Jordan River NFH
- b. March – low level mortality at Jordan River
- c. June – more low-level mortality at Jordan River (50/d)
 - i. Only affecting Seneca Lake strain fish
- d. Later in June – moved to Pendill's Creek
 - i. Higher mortality (hundreds/d)
 - ii. Warmer water, construction on site, etc.
 - iii. Mortality now down to about 50/d
- e. Seneca Lake fish hatched at Pendill's were not diseased but the pathogen is present
- f. Current outbreak only affecting Seneca Lake strain fish. No other strains affected.

11. Maps

- a. Continue discussion about how to develop and distribute maps of the geographic extent of diseases of interest in the basin
- b. Meanwhile, will develop some maps with detections marked on them, although will not be done using GPS or Lat/Long coordinates
 - i. Cutthroat trout virus - so far, not found in the basin or in hatcheries
 - 1. La Crosse knows it can detect the virus
 - ii. Bothriocephalus and Polypodium – only one detection of each in basin, maps were shown as examples
 - iii. Nucleospora - ?
 - iv. Koiherpes virus – ON detections need to go on map - ACTION: E. Wright
 - v. VHS – map show needs additions from MN, otherwise is up to date.
ACTION: Shen to send detections to E. Wright
 - vi. Faisal has map of basin that can be used – ACTION: Faisal to send to E. Wright

12. VHS

- a. Largely discussed in agency updates
- b. Watch for APHIS's interim rule – it could be out by fall
- c. VHS testing of baitfish in ON done through graduate work (Drake)
 - i. Not detected in fish bought from retail stores

13. VHS and baitfish discussion

- a. The susceptible species list includes bluntnose minnow, fathead minnow and emerald shiner
- b. Need to find a way to rationalize baitfish regulations in light of APHIS regulations.

14. Model Program

- a. Subcommittee to revise – has met and distributed workload
 - i. Membership is E. Wright, Phillips, Shen, Marcquenski, Noyes
 - ii. Next call in September with some tasks due October 1
- b. Risk assessment has been received
- c. Seeking to bring before CLC in April 2011

15. Networking and communication with other regional committees

- a. Other regional committees have misconceptions about what's going on in the Great Lakes
- b. Discussed variety of options including inviting reps from other committees to observe a FHC meeting, forwarding FHC meeting minutes, adding time on our agenda for updates from other regions, look for opportunities for improved communication with CFIA and APHIS.
- c. Seek to be more proactive with communication

16. Research priorities

- a. Subcommittee presented revised list of research priorities

- b. New version was supported and viewed as more straightforward than previous version
 - c. Research priorities were modified to further refine research interests and capture discussions from meeting.
 - i. ACTION: E. Wright to submit revised list to GLFC
 - ii. ACTION: Dettmers to post revised list on GLFC web site
17. Action Items
- a. Action Items from January Meeting
 - i. Photo Library - ACTION - Marcquenski to send photos to Whelan
 - b. New Action Items – identified during meeting
18. Next meeting
- a. January 20-21 in Toledo, OH

Summary of Action Items

- ACTION: E. Wright: minor revisions to January 2009 minutes
- ACTION: E. Wright: minor revision to February 2009 conference call minutes
- Ongoing Action: GLFC (J. Dettmers): continue to add meeting notes (current as available and past as resources permit) to the web site
- ACTION: J. Dettmers: distribute updated GLFHC roster and update website
- ACTION: E. Wright: seek input from members not present at Aug 2009 meeting about potential for Ron Hedrick as technical advisor
- ACTION: J. Dettmers: follow up with CLC for clarification about CLC suggestion that consensus is not a prerequisite for input to CLC from GLFHC
- ACTION:
 - M. Faisal: speak with Bev Schmitt on lab standardization criteria
 - K. Phillips: speak with Guppy Blair on lab standardization criteria
 - J. Coll, K. Phillips, M. Faisal: draft straw dog letter to APHIS on lab standardization
- ACTION: L. Shen: send VHS detections map to E. Wright
- ACTION: M. Faisal: send map of basin that can be used as template for pathogen detection locations to E. Wright
- ACTION: E. Wright: draft pathogen detection maps for GLFHC input
- ACTION: E. Wright: submit revised list of research priorities to J. Dettmers
- ACTION: J. Dettmers: submit GLFHC research priorities to GLFC and post on GLFC web site
- ACTION: S. Marcquenski: send photos to G. Whelan for completion of photo library