



PA FFA Aquatic Resources

Virtual CDE



Chairperson Information

CDE Chairperson	Rebecca Mosemann
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Basic Virtual CDE/LDE Guidelines

Event Type:	# of Team Members:
<u>Individual Materials List</u> <ul style="list-style-type: none"> • google compatible computer • calculator 	<u>Group Materials List</u> <ul style="list-style-type: none"> • N/A
<u>Pre-Event CDE Expectations</u> <ul style="list-style-type: none"> • Study the identification lists and be prepared to complete the practicums using the attached answer sheets. 	

Virtual CDE/LDE Rules

CDE Component	Points	Component Description	Virtual Platform
Written Test	200	50 comprehensive questions on Limnology (Stream ecology), groundwater, ecology of aquatic species, management practices, PA Fish & Boat Commission Laws, etc	Google Form
Identification of Aquatic Species, Insects, Plants, Equipment	325	10 identification of each of the following (each worth 50 points): <ul style="list-style-type: none"> · Fish · Equipment · Reptiles and Amphibians · Aquatic Plants · Aquatic Insects · Birds and Mammals 5 identification of Bird /	Google Forms

		Amphibian Calls (25 points)	
Practicums: Problem Solving / Analysis	100	The following practicums will be chosen. (each worth 50 points): <ul style="list-style-type: none"> · Stream Flow and volume of water in a stream · Biotic Index 	Recorded Google Meet Sessions Google Form
Causes for Disqualification: <ul style="list-style-type: none"> • Use of cell phone to locate / share answers; • Cheating / Talking during the CDE. 			
Tie-breaker: Exam score will be used as the tie-breaker.			

Resources

Aquatic Resource CDE Resource Websites:

- PA Department of Conservation and Natural Resources: <http://www.dcnr.state.pa.us/index.aspx>
- PA Envirothon: <http://www.envirothonpa.org/station/aquatic-ecology/>
- PA Game Commission: <http://www.pgc.state.pa.us>
- PA Fish & Boat Commission: <http://www.fish.state.pa.us>
- PSU – College of Agricultural Sciences: <http://pubs.cas.psu.edu/Publications.asp>

(publications on water and water quality)

· <http://extension.psu.edu/natural-resources/water/ponds/pond-management/fisheries/fish-population-exercise>

U.S. Fish and Wildlife Service <http://www.fws.gov/>

Suggested references for the Written test:

- PFBC “Pennsylvania Fishes” <http://fishandboat.com/pafish/fishhtms/chapindx.htm>
- PFBC “Pennsylvania Reptiles and Amphibians” Book can be purchased from the PFBC (ISBN 1-930369-00X) (Envirothon teams can obtain a copy from the PA Envirothon)
- PFBC “Summary of Fishing Regulations and Laws” – current year <http://fishinpa.com/>
- PFBC, PGC & DCNR “Endangered and Threatened Species of Pennsylvania” <http://www.pacode.com/secure/data/058/chapter75/chap75toc.html>

<http://www.portal.state.pa.us/portal/server.pt?open=514&objID=621014&mode=2>

- PFBC “Basics of Water Pollution” <http://fishandboat.com/education/catalog/waterpollutionpa.pdf>

PSU “A Quick guide to Groundwater in Pennsylvania” <http://pubs.cas.psu.edu/freepubs/pdfs/uh183.pdf>

Suggested references for the Identification sections:

- Fish - PFBC wall charts (Set of 6 posters) PA Fish PFBC “PA Fishes”
<http://fishandboat.com/pafish/fishhtms/chapindx.htm>
- Reptiles & Amphibians - PFBC wall charts (set of 4 posters); PA Reptiles and Amphibians; Assorted field guides to reptiles and amphibians
- Birds & Mammals - PGC wall charts (set of 8 posters); PA Birds and Mammals of PA; Assorted field guides to birds and mammals
- Equipment - Forestry suppliers Inc. Catalog: <http://www.forestry-suppliers.com/>
- Insect - PFBC “Pond & Stream study Guide” References
<http://fishandboat.com/education/catalog/pondstream.pdf> ; PFBC “Pond / Stream Study Guide & Key to Macroinvertebrates” <http://www.envirothonpa.org/documents/pondstream.pdf> ; Assorted field guides to aquatic insects

Plant - PSU “A field guide to common aquatic plants in PA”

<http://pubs.cas.psu.edu/FreePubs/pdfs/agrs110.pdf> ; PSU “Management of Aquatic Plants”
<http://pubs.cas.psu.edu/freepubs/pdfs/agrs102.pdf> ; Assorted field guides to Aquatic plants