



Volunteer Freshwater Mussel Survey

Please record observations on data sheet for each survey



Upload data here: <http://www.delawareestuary.org/science-and-research/freshwater-mussels/freshwater-mussels-volunteer-surveys/>

Section 1: General Survey Information	
Participant Names & Organization (if applicable):	Contact E-mail/Phone (if we have questions):
Survey Date:	Number of Surveyors:
Describe mussel survey experience: <input type="checkbox"/> I'm new at this <input type="checkbox"/> I've done it 2- 5 times <input type="checkbox"/> I dream of mussels I do this so often	Surveying Technique (Check all that apply): <input type="checkbox"/> Shoreline (on bank) <input type="checkbox"/> Wading (in creek) <input type="checkbox"/> Snorkel (underwater)

TIP: When in streams and rivers, surveying from downstream to upstream will keep cloudy water behind you.

Section 2: Start Location Information	
Name of Water Body/Stream:	Starting Time: (am/pm)
Start Location Description (Where did you access water e.g. crossroads, park name, landmark):	
Start Latitude: (if possible)	Start Longitude: (if possible)

TIP: Take pictures of start locations and end locations to help document your survey



Section 3: End Location Information	
Ending time: (am/pm)	
End Location Description (Where did you end the survey e.g. crossroads, park name, landmark):	
End Latitude: (if possible)	End Longitude: (if possible)

Section 4: Observations & Results	
Average depth of surveyed area: <input type="checkbox"/> Ankle deep <input type="checkbox"/> Knee deep <input type="checkbox"/> Above the hips <input type="checkbox"/> Stayed out of water	Describe slope of the stream banks: <input type="checkbox"/> Gradual <input type="checkbox"/> Sharp <input type="checkbox"/> Eroded
Describe the stream bottom: (Check all that apply) <input type="checkbox"/> Silt <input type="checkbox"/> Clay <input type="checkbox"/> Sand <input type="checkbox"/> Cobble <input type="checkbox"/> Boulders	Is this stream reach in need of a cleanup? <input type="checkbox"/> Yes, there were extensive areas of debris <input type="checkbox"/> Maybe, some areas had debris <input type="checkbox"/> No, the stream reach looked healthy and clean!
Did you find any non-native clams? (Asian clam, rangia clam) <input type="checkbox"/> No <input type="checkbox"/> Yes	Describe other wildlife observed: (e.g. fish, crayfish, frogs)
How many mussel specimens did you find? (1 specimen = 1 live mussel, 1 individual shell, or 2 shells with hinge attached.) <input type="checkbox"/> 0 specimens <input type="checkbox"/> 1-5 specimens <input type="checkbox"/> 6-20 specimens <input type="checkbox"/> 21+ specimens	How were live mussels spaced in the creek? <input type="checkbox"/> No live mussels found <input type="checkbox"/> Densely clumped <input type="checkbox"/> Patchy and spread out <input type="checkbox"/> Patchy in some areas; Dense in others



Section 5: Individual Mussel Specimen Data

If you found live mussels or shells, please fill out up to four specimens.

TIP: Multiple photos will help with identification!

Mussel Specimen #1		
Where was the specimen found? <input type="checkbox"/> Out of water (e.g. bank, shore, sandbar) <input type="checkbox"/> In water, near banks stream <input type="checkbox"/> In water, middle of stream		Specimen Location (if possible) Latitude: _____ Longitude: _____
Describe the specimen: <input type="checkbox"/> Live mussel <input type="checkbox"/> Single shell <input type="checkbox"/> Two shells, hinge attached	Exterior color of the shell: (Check all that apply) <input type="checkbox"/> Green/Olive <input type="checkbox"/> Yellow <input type="checkbox"/> Tan <input type="checkbox"/> Brown <input type="checkbox"/> Red <input type="checkbox"/> Black	Describe the shape of the shell: <input type="checkbox"/> Elongate <input type="checkbox"/> Subtrapezoidal <input type="checkbox"/> Ovate <input type="checkbox"/> Subovate <input type="checkbox"/> Broken shell
What mussel species do you think the specimen is? (Check all that apply): (The mussel field guide can help with identification!) <input type="checkbox"/> Brook Floater <input type="checkbox"/> Eastern Pearlshell <input type="checkbox"/> Triangle Floater <input type="checkbox"/> Creeper <input type="checkbox"/> Eastern Pondmussel <input type="checkbox"/> Yellow Lampmussel <input type="checkbox"/> Eastern Elliptio <input type="checkbox"/> Green Floater <input type="checkbox"/> Eastern Floater <input type="checkbox"/> Tidewater Mucket <input type="checkbox"/> Eastern Lampmussel <input type="checkbox"/> Alewife Floater		

Notes:

Mussel Specimen #2		
Where was the specimen found? <input type="checkbox"/> Out of water (e.g. bank, shore, sandbar) <input type="checkbox"/> In water, near banks stream <input type="checkbox"/> In water, middle of stream		Specimen Location (if possible) Latitude: _____ Longitude: _____
Describe the specimen: <input type="checkbox"/> Live mussel <input type="checkbox"/> Single shell <input type="checkbox"/> Two shells, hinge attached	Exterior color of the shell: (Check all that apply) <input type="checkbox"/> Green/Olive <input type="checkbox"/> Yellow <input type="checkbox"/> Tan <input type="checkbox"/> Brown	Describe the shape of the shell: <input type="checkbox"/> Elongate <input type="checkbox"/> Subtrapezoidal <input type="checkbox"/> Ovate <input type="checkbox"/> Subovate <input type="checkbox"/> Broken shell



	<input type="checkbox"/> Red	<input type="checkbox"/> Black	
What mussel species do you think the specimen is? (Check all that apply): (The mussel field guide can help with identification!)			
<input type="checkbox"/> Brook Floater	<input type="checkbox"/> Eastern Pearlshell	<input type="checkbox"/> Triangle Floater	<input type="checkbox"/> Creeping
<input type="checkbox"/> Eastern Pondmussel	<input type="checkbox"/> Yellow Lampmussel	<input type="checkbox"/> Eastern Elliptio	<input type="checkbox"/> Green Floater
<input type="checkbox"/> Eastern Floater	<input type="checkbox"/> Fidewater Mucket	<input type="checkbox"/> Eastern Lampmussel	<input type="checkbox"/> Alewife Floater

Notes:

Mussel Specimen #3		
Where was the specimen found? <input type="checkbox"/> Out of water (e.g. bank, shore, sandbar) <input type="checkbox"/> In water, near banks stream <input type="checkbox"/> In water, middle of stream		Specimen Location (if possible) Latitude: Longitude:
Describe the specimen: <input type="checkbox"/> Live mussel <input type="checkbox"/> Single shell <input type="checkbox"/> Two shells, hinge attached	Exterior color of the shell: (Check all that apply) <input type="checkbox"/> Green/Olive <input type="checkbox"/> Yellow <input type="checkbox"/> Tan <input type="checkbox"/> Brown <input type="checkbox"/> Red <input type="checkbox"/> Black	Describe the shape of the shell: <input type="checkbox"/> Elongate <input type="checkbox"/> Subtrapezoidal <input type="checkbox"/> Ovate <input type="checkbox"/> Subovate <input type="checkbox"/> Broken shell
What mussel species do you think the specimen is? (Check all that apply): (The mussel field guide can help with identification!)		
<input type="checkbox"/> Brook Floater	<input type="checkbox"/> Eastern Pearlshell	<input type="checkbox"/> Triangle Floater
<input type="checkbox"/> Eastern Pondmussel	<input type="checkbox"/> Yellow Lampmussel	<input type="checkbox"/> Eastern Elliptio
<input type="checkbox"/> Eastern Floater	<input type="checkbox"/> Fidewater Mucket	<input type="checkbox"/> Eastern Lampmussel
		<input type="checkbox"/> Alewife Floater

Notes:

Mussel Specimen #4	
Where was the specimen found? <input type="checkbox"/> Out of water (e.g. bank, shore, sandbar) <input type="checkbox"/> In water, near banks stream <input type="checkbox"/> In water, middle of stream	Specimen Location (if possible) Latitude: Longitude:



Describe the specimen: <input type="checkbox"/> Live mussel <input type="checkbox"/> Single shell <input type="checkbox"/> Two shells, hinge attached	Exterior color of the shell: (Check all that apply) <input type="checkbox"/> Green/Olive <input type="checkbox"/> Yellow <input type="checkbox"/> Tan <input type="checkbox"/> Brown <input type="checkbox"/> Red <input type="checkbox"/> Black	Describe the shape of the shell: <input type="checkbox"/> Elongate <input type="checkbox"/> Subtrapezoidal <input type="checkbox"/> Ovate <input type="checkbox"/> Subovate <input type="checkbox"/> Broken shell
What mussel species do you think the specimen is? (Check all that apply): (The mussel field guide can help with identification!) <input type="checkbox"/> Brook Floater <input type="checkbox"/> Eastern Pearlshell <input type="checkbox"/> Triangle Floater <input type="checkbox"/> Creeper <input type="checkbox"/> Eastern Pondmussel <input type="checkbox"/> Yellow Lampmussel <input type="checkbox"/> Eastern Elliptio <input type="checkbox"/> Green Floater <input type="checkbox"/> Eastern Floater <input type="checkbox"/> Tidewater Mucket <input type="checkbox"/> Eastern Lampmussel <input type="checkbox"/> Alewife Floater		

Notes:

