

Annual Report for 2017

By Dr. Bern Sweeney and Michael Broomall

The Society for Freshwater Science Taxonomic Certification Program was established in 2005 to test the taxonomic skills of people involved in benthic macroinvertebrate studies in North America. The certification program is seen by the USEPA and Environment & Climate Change Canada as a valuable indication of taxonomic ability. The accurate and precise identification and classification of organisms provides the foundation for biological investigations of the ecology of our freshwater systems, as well as biomonitoring programs aimed at evaluating the environmental health of these systems. Accurate identifications of the organisms present are required to yield credible ecological and reliable bio assessment results.

Transition from Acadia University to Stroud Water Research Center:

In 2017, the transition of the TCP from Acadia University to the Stroud Water Research Center occurred in February with the retirement of Gail Corkum and Murray Colbo. A special thank you is owed to Gail and Murray, they served the TCP for many years and will be missed.

In the words of Dr. John Morse: *“It has been a pleasure working with you all these years, Gail and Murray. Gail has managed the organization and shipment of specimens and thumbdrives, two-currency bookkeeping, and complicated correspondence accurately, efficiently, and with grace and diplomacy. She and I especially have worked through many technical issues together through the years and engaged in numerous frantic phone calls in the midst of examinations, successfully resolving urgent and complex problems. Murray has provided his wisdom and spent MANY hours preparing digital images. You two made a good team there at Acadia University and our profession is much the better for all you accomplished!”* In the words of Dr. Barry Poulton: *“Good luck to you Gail and Murray, with the assurance that this program is stronger because of your valuable contributions and remains in good hands at SWRC to continue the legacy.”*

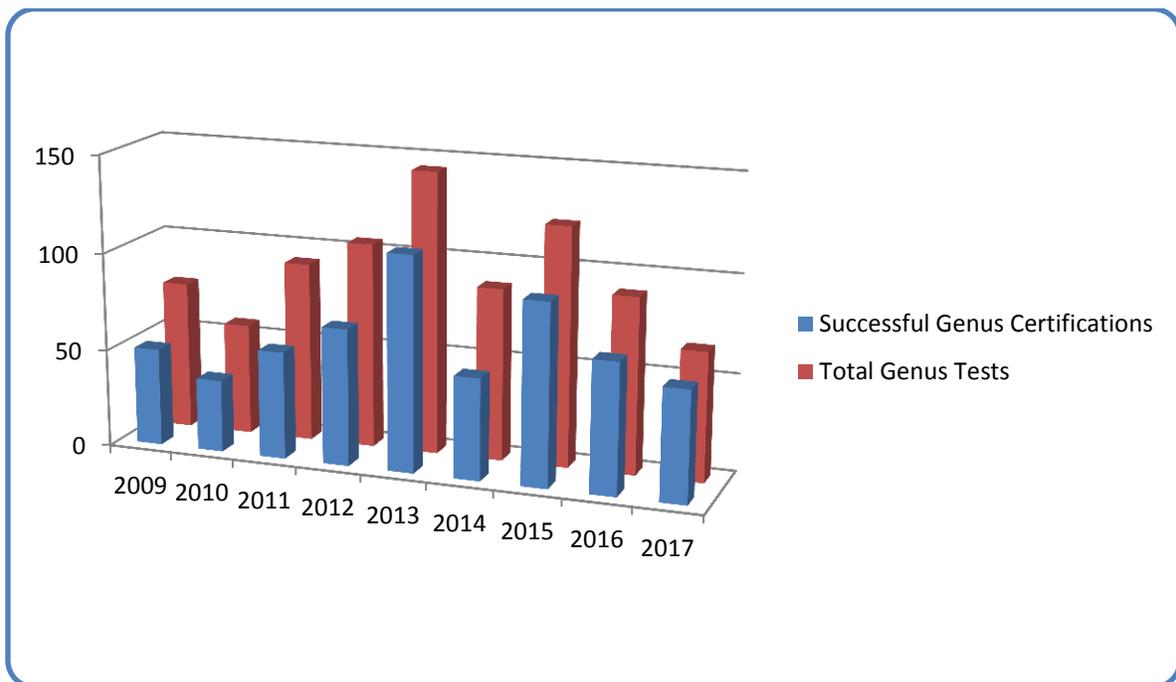
The TCP program is currently administered by the Stroud Water Research Center with the support of Dr. Bern Sweeney, Jane Sowden, John Pepe, Heather Brooks, Rebecca Duczkowski and Michael Broomall.

Genus level testing:

In 2017, the TCP ran 66 specimen/image based genus level tests conducted at 33 events resulting in 57 newly Certified Taxonomists. This compares to 90 specimen/image based genus level tests administered in 2016 resulting in 67 certifications. Family Level image based tests in 2017 were administered 78 times with 32 successfully Certified to the Family level. This compares to the 53 tests and 22 certifications in 2016. There was one recertification by petition in 2017. We anticipate increased testing in 2018 as this will be the 5th year anniversary of the 2013 peak and many certified taxonomists should be applying for renewal of their certification.

These certifications were achieved with accurate identification of 95% + of specimens or images on a practical test. There was an 86% success rate for genus level testing in 2017.

Genus Level Tests (Specimens and Images) 2009-2017



The SFS TCP tests are made accessible to people who identify macroinvertebrates. The genus-level tests are conducted with specimens (east and west General Arthropods), specimen slides (Oligochaeta) and now images (east and west Ephemeroptera, Plecoptera and Trichoptera and Chironomidae). The genus tests help evaluate ability to find and assess diagnostic characters and are attractive for professionals using genus- or species-level protocols. These tests are being used as end of term options offered by Professors for students wishing to bolster their CV's as well as the end of workshops offered across North America in both Canada and the United States. The test candidates must identify 19 of the 20 specimens or image collages correctly for a score of 95% to gain certification. A successful certification stands for 5 years and is posted on the TCP website during this time.

Genus level Re-Certification by Petition (TCC):

In 2012 the TCC drafted a Re-Certification Petition which is now available to Certified Taxonomists choosing to renew their Certifications after 5 years, using the Petition rather than a test.

In 2017, 1 genus level certification was renewed by petition to the SFS Taxonomic Certification Committee (TCC).

To date there have been 31 submitted petitions for certification renewal and all have been successful.

Family Level Testing:

The family level Certification is accomplished with successful identification of 38 of 40 (95%) web and USB based image collages. These image-based tests are an economical means for evaluating ability with family-level distinctions. Images covering a wide range of aquatic insect families were produced by Dr. Colbo in 2013 to enhance testing. The web-based, family-level tests are attractive not only for professionals using family-level protocols, but also volunteers who may be assisting monitoring programs. These tests are also being used as end of term options offered by Professors for students wishing to bolster their CV's as well as the end of workshops. These image collages can be viewed and practiced on the free self-evaluation portal of the TCP to website registered members.

In 2017 there was a 41% success rate at the Family level. The lower success rate (than at the genus level) is thought to be due to the test being tried by students and people working with community groups which will have less experience than those writing at the genus level.

[Family level Tests \(Images\) 2009-2017](#)



Test Development Update:

The incomplete Mollusca image files are held by the TCP and are waiting to be upgraded as the experts and funding become available in the future.

Test Proctoring:

With every effort being made to accommodate busy labs and their employees, we have been able to offer the image tests “in house” and supervised using web cameras between the TCP administrator and the test candidates. There have been 10 remotely supervised tests in 2017.

Thank you to all who have given their time and space to supervise testing without your support and time the program would not exist.

Looking forward the SFSTCP in 2018:

Discussions with Diatoms of the United States (DOTUS) continue for the development of a Diatom Taxonomic Certification Program and Exam.

The development of a macroinvertebrate Order level exam has been started.

The implementation of combining the chironomidae test images into a single collage has been funded and will be completed by early February 2018.

A new website for the SFS TCP created by Heather Brooks is being hosted by Stroud Water Research Center and can be found at: <https://stroudcenter.org/sfstcp/>