

# Desert Fishes Council

Consejo de los Peces del Desierto



*Dedicated to the Conservation of North America's Arid Land Ecosystems*

## 51st Annual Meeting Short Program

20-24 November 2019  
Sul Ross State University,  
Alpine, Texas, USA



## CAMPUS MAP



- |  |                                 |
|--|---------------------------------|
| 1. President's Home                        | 17. Residential Living Office   |
| 2. Wildenthal Memorial Library             | 18. Graves-Pierce Gym           |
| 3. Morgan University Center                | 19. Pete P. Gallego Center      |
| 4. Briscoe Administration Building         | 20. Tennis Courts               |
| 5. Morelock Academic Building              | 21. Swimming Pool               |
| 6. Academic and Computer Resource Building | 22. Outdoor Amphitheater        |
| 7. Lawrence Hall                           | 23. Range Animal Science Center |
| 8. Museum of the Big Bend                  | 24. Mountainside Hall           |
| 9. Francois Fine Arts Building             |                                 |
| 10. Warnock Science Building               |                                 |
| 11. Ferguson Hall                          |                                 |
| 12. Fletcher Hall                          |                                 |
| 13. Industrial Technology Building         |                                 |
| 14. Art Annex                              |                                 |
| 15. Physical Plant                         |                                 |
| 16. Lobo Village Housing Complex           |                                 |

**P** **PARKING**

**E** **ENTRANCE**

For more information contact the  
University Operator: 432-837-8011

## Overview and Event Locations

Date & Time	Event	Location
<b>Wednesday, 20 November 2019</b>		
16:00-17:30	Registration and Presentation Loading	Espino Conference Center in Morgan Univ. Center
18:00-20:30	Social Mixer	Espino Conference Center in Morgan Univ. Center
<b>Thursday, 21 November 2019</b>		
08:00-18:00	Registration and Presentation Loading	Espino Conference Center in Morgan Univ. Center
08:30-08:45	Welcome	Espino Conference Center in Morgan Univ. Center
08:45-11:30	General Session I	Espino Conference Center in Morgan Univ. Center
11:30-13:30	Lunch	On your own
13:30-17:00	General Session II	Espino Conference Center in Morgan Univ. Center
17:15-19:15	Poster Session	Espino Conference Center in Morgan Univ. Center
19:15-21:15	Student Networking Session	Espino Conference Center in Morgan Univ. Center
<b>Friday, 22 November 2019</b>		
08:30-10:30	General Session III	Espino Conference Center in Morgan Univ. Center
10:30-11:30	Plenary Session	Espino Conference Center in Morgan Univ. Center
11:30-13:15	Lunch	On your own
13:15-16:45	Symposium – Changing Landscapes	Espino Conference Center in Morgan Univ. Center
16:45-17:00	Awards	Espino Conference Center in Morgan Univ. Center
17:15-18:45	Business Meeting	Espino Conference Center in Morgan Univ. Center
19:00-21:00	Banquet	Espino Conference Center in Morgan Univ. Center
<b>Saturday 23 November 2019</b>		
08:30-11:00	General Session IV	Espino Conference Center in Morgan Univ. Center
11:00-12:15	Hidden Rivers Video	Espino Conference Center in Morgan Univ. Center
<b>Sunday 24 November 2019</b>		
07:00-19:00	Field Trip	Mount Livermore hike, Davis Mountains Preserve



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We thank our generous hosts:



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Cover artwork by Alice Best, River Horse Studio (<https://riverhorsestudio.com/>)

Events are in Espino Conference Center within the Morgan University Center Building unless otherwise specified.

**Presenters, please load your presentation by 6:00 pm the day before your presentation.**

Presenters have an asterisk next to their name.

Student award presentations have superscripts next to times.

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### **Short Program Detail**

#### **Wednesday, November 20th**

**16:00-17:30 Registration and Presentation Loading**

**18:00-20:30 Social Mixer**

#### **Thursday, November 21th**

**08:00-18:00 Registration and Presentation Loading**

**08:30-08:45 Welcome (Chairs: Phil Pister, Krissy Wilson, Megan Bean)**

#### **08:45-11:30 General Session I (Chair: Brandon Senger)**

- 08:45 Dean Hendrickson\* and Tim Lyons. Undescribed Mexican trout diversity: an update and conservation status assessments
- 09:00 Anthony Robinson\*, Yvette Paroz, Matthew Clement, Thomas Franklin, Joseph Dyshe, Michael Young, Kevin Mckelvey and Kellie Carim. Environmental DNA sampling of desert fishes: performance relative to location, species, and traditional sampling
- 09:15 David Rogowski\*, Cory Nielson and Pilar Wolters. Critical swim speeds of two suckers and their hybrids

- 09:30 Patrick Donnelly\*. Utilizing the Endangered Species Act to protect desert fishes: 3 cases
- 09:45 Pilar Wolters\*, David Rogowski and Corwin Nielson. Hot, cold, and hungry suckers
- 10:00 Brian Hickerson\*, Anthony Robinson and Kent Mosher. Fish assemblage restoration in the lower Blue River, Arizona
- 10:15 Tyler Goodearly\*. Invasive crayfish eradication - a complicated species requires complicated conservation efforts
- 10:30 Thomas Turner\*, Megan Osborne and Thomas Dowling. How many off-channel habitats are needed to sustain genetic diversity in 'big-river' fishes?
- 10:45 Elizabeth Grube\*, Brian Hickerson and Anthony Robinson. Red Tank Draw drainage nonnative fish mechanical removal
- 11:00 Koreen Zelasko\*, Kevin Bestgen and Gary White. Passive detection data aid estimation of Razorback Sucker *Xyrauchen texanus* survival rates
- 11:15 Jennifer Gumm\*, Mitchell Stanton and Olin Feuerbacher. Captive breeding of the Devils Hole Pupfish

**11:30-13:30 Lunch (on your own)**

**13:30-17:00 General Session II (Chair: Kate Boersma)**

- 13:30 Thomas Hafen\*, Andrew Taylor, James Long, David Stewart and Dean Hendrickson. Landscape modeling of threatened Yaqui Catfish in a data limited environment
- 13:45 Aaron Ambos\*, Raymond Saumure, Thomas O'Toole and Zane Marshall. Born to be rewilded; the Pahrump Poolfish and Relict Leopard Frog find a new home in Las Vegas, Nevada
- 14:00 Ronald Rogers\*, Brandon Albrecht and Ronald Kegerries. Lower Colorado River area report
- 14:15<sup>RRM</sup> Alexandre Gutiérrez-Barragán\*, Alejandro Varela-Romero, Carlos Alonso Ballesteros-Córdova, José Manuel Grijalva-Chon, Enrique De La Re-Vega and Francisco Javier García-De León. Advances on the genetic characterization of the reproductive stock of Yaqui Catfish, *Ictalurus pricei* (Rutter, 1896), of the Bavispe River sub-basin, Sonora
- 14:30 David Syzdek\*. Ongoing restoration projects for the endangered Moapa Dace, *Moapa coriacea*, at the Warm Springs Natural Area, Clark County, Nevada.
- 14:45<sup>CLH</sup> Alex Cameron\*, David Camak, Megan Osborne, Tyler Pilger, David Propst and Thomas Turner. Disentangling natural dispersal versus human-mediated introduction of the Longfin Dace across the trans-continental divide
- 15:00 Timothy Lyons\*. A comprehensive assessment of Mexican freshwater ichthyofauna extinction risk under the IUCN Red List categories and criteria
- 15:15<sup>CLH</sup> Susan Washko\* and Michael Bogan. A global review of patterns of aquatic macroinvertebrate dispersal and functional feeding traits in aridland rock pools
- 15:30 Joanna Hatt\*, Daniel Trujillo and John Caldwell. Restoring Gray Redhorse populations in the Delaware River, New Mexico

- 15:45<sup>CLH</sup> Amanda K. Pinion\*, Daemin Kim and Kevin W. Conway. Phylogeography of *Notropis stramineus* (Cope, 1865)
- 16:00 Brian Hines\*. Population estimates for Humpback Chub, *Gila cypha*, and Roundtail Chub, *Gila robusta*, in Westwater Canyon, Colorado River, Utah, 2016-2017.
- 16:15 Matthew Acre\*, Joshua Perkin and Megan Bean. Spatial structure and survey method influence population estimates for endangered Comanche Springs Pupfish
- 16:30 Brett Montgomery\*, William Partridge and Matthew Chmiel. The success of Green Sunfish removals in McGee Wash
- 16:45<sup>RRM</sup> Miguel Angel Grageda Garcia\* and Michael Bogan. Population status of the Sonoyta Mud Turtle (*Kinosternon sonoriense longifemorale*) in the Sonoyta River, Sonora, Mexico

### 17:15-19:15 Poster Session

- 17:15 Blake Hansen\*, Amber Bell and Jackeline Wilkinson. Stonefly assemblages vs trout in low-order creeks along the Northern Wasatch Front
- 17:15 Amber Bell\*. Rainbow versus Cutthroat Trout effects on predatory invertebrate assemblages
- 17:15<sup>PA</sup> Jackeline Bedoya-Wilkinson\*, Blake Hansen, Brennen Slagowski, Desiree Peck, Crystal Price and Mckenna Merrill. Predatory interrelations in Weber & Davis County streams
- 17:15 M. L. Warren, B. M. Burr, A. A. Echelle, B. R. Kuhajda and S. T. Ross\*. Freshwater Fishes of North America, Volume 2
- 17:15 Zachary Beard\*. Potential for Gila Trout egg stocking as a successful repatriation tool
- 17:15 Tiffany Love-Chezem\* and Chase Ehlo. Advancing technology: the PIT tag problem in the Lower Colorado River
- 17:15 Alejandro Varela-Romero\*, Chuck Minckley, Anna Valer A. Clark, Francisco Javier Villegas-Cota and Alexsandre Gutiérrez-Barragán. Advances in the study and recovery of a reproductive stock of the Yaqui Catfish, *Ictalurus pricei*, in Arroyo Cajón Bonito, Sonora
- 17:15 Román Rodríguez-Ramírez, Alejandro Varela-Romero\*, Nohelia Pacheco-Hoyos, José Manuel Grijalva-Chon, Marco Antonio López-Torres and Anthony Echelle. Genetic variability and inbreeding of the Sonoyta Pupfish *Cyprinodon eremus* Miller and Fuiman, 1987, in artificial refuges and wild populations of Sonora, Mexico
- 17:15 Germán Salazar Cabral\*, Alejandro Varela-Romero, Michael Thomas Bogan, José Manuel Grijalva Chon and Francisco Molina Freaner. Spatial dispersion of Soldier Flies (Stratiomyidae, Diptera) between non-perennial water bodies in El Pinacate y Gran Desierto de Altar Biosphere Reserve, Sonora, México
- 17:15 Marisol Andrea Paredes Gallardo\*, Alejandro Varela-Romero, José Manuel Grijalva-Chon and Enrique De La Re-Vega. Study for the recognition of the specific identity of the remaining population of the Long-Finned Carp *Agosia chrysogaster* Girard, 1856 of the Sonoyta River from the variation of its mitochondrial genes
- 17:15<sup>PA</sup> Amanda K. Pinion\*, Daemin Kim and Kevin W. Conway. Morphological investigation

of the Sand Shiner *Notropis stramineus* (Cope, 1865)

- 17:15 Alan Mauer\*, Brian Sidlauskas, Marci Schreder, Justin Miles, Fred Monzyk, Richard Pyzik and Benjamin Nicholas. Oregon / Northern California area report to the Desert Fishes Council, November 2019
- 17:15 Carlos Ballesteros\*, Gorgonio Ruiz-Campos, Alejandro Varela-Romero and Sergio Sánchez Gonzáles. Morphometric and meristic variation within populations of the Mexican Roundtail Chub *Gila minacae* (Teleostei: Cyprinidae) in Northwest México
- 17:15 Harlan Bean\*. Learning about how pupfish live
- 17:15 Martinique Chavez\*, Stephani Clark Barkalow and Steven Platania. Importance of drainage-specific growth curves for back-calculating spawning periodicity of federally endangered Colorado Pikeminnow and Razorback Sucker

**19:15-21:15 Student Networking Session (Chair: Heidi Blasius)**

**Friday, November 22nd**

**08:30-10:30 General Session III (Chair: Tiffany Love-Chezem)**

- 08:30 Doug Duncan\*, Sharon Keeney and Martha Roman. A status and conservation update for the Desert Pupfish
- 08:45 Mario Alberto Lucio-Alvarez\*. Structural analysis in gonopodium of the genus *Poecilia* (Cyprinodontiformes: Poeciliidae) on selected species and its implication on taxonomy
- 09:00<sup>CLH</sup> Kelbi Delaune\*, Connor Brown and Allison Pease. Spatial and temporal variation in benthic macroinvertebrate assemblages at tributary confluences of the Pecos River
- 09:15 Erick Cristóbal Oñate González\*, María Elena García Ramírez and Deborah Esther Veloz Barocio. Changes in fish diversity at La Silla River, Nuevo León, Mexico: biological collections as witness of the ecosystems quality
- 09:30 Megan Osborne\*, Joanna Hatt, Stephen Davenport, Eliza Gilbert and Thomas Turner. Time for rescue: genetic conservation of imperiled fishes: Arkansas River Shiner, *Notropis girardi*, Peppered Chub, *Macrhybopsis tetranema*, and Plains Minnow, *Hybognathus Placitus*.
- 09:45<sup>CLH</sup> Hamdhani\*, Drew Eppheimer, David Quanrud and Michael Bogan. Seasonal and longitudinal water quality dynamics in three effluent-dependent rivers in Arizona
- 10:00<sup>CLH</sup> David Camak\*, Megan Osborne, David Propst and Thomas Turner. Assessing genetic diversity among lineages of Gila Trout based on neutral and adaptive single nucleotide polymorphic loci
- 10:15 Michael Schwemm\*, Ambre Chaudoin, Jeffrey Goldstein, Kevin Wilson, John Wullschleger, Olin Feuerbacher, Jennifer Gumm, Alex Jones, Corey Lee, Javier Linares-Casenave and Brandon Senger. Collaborative research, conservation, and management strategies for the endangered Devils Hole Pupfish

**10:30-11:30 Plenary Session – Changing Landscapes (Speaker - Timothy Birdsong)**

**11:30-13:15 Lunch (on your own)**

**13:15-16:45 Session 6: Symposium - Changing Landscapes: the Shift of the Chihuahuan Desert to a Groundwater Dependent Ecosystem (Chair: Megan Bean)**

- 13:15 Lynn Loomis\*. The role of climate in establishing goals and expectations for rangeland restoration projects in Far West Texas
- 13:30 Chad Norris\*. West Texas springs: leaking into an uncertain future
- 13:45 Kevin Urbanczyk\* and Jeffery Bennett. The Rio Grande Wild and Scenic River
- 14:00 Weston Nowlin\*, Parvathi Nair, Nina Noreika, Pete Diaz and Chad Norris. Resource use and ecological interactions of invertebrate communities in springs of Central and West Texas
- 14:15 Charles Randklev\*, Michael Hart, Jennifer Khan and Clint Robertson. A semi-arid river in distress: contributing factors and recovery solutions for three imperiled freshwater mussels (family Unionidae) endemic to the Rio Grande Basin in North America
- 14:30 Michael Hart\* and Charles Randklev. Assessing salinity toxicity of *Popenais popeii* (Texas Hornshell) from the Rio Grande, Texas
- 14:45 Jennifer Khan, Amanda Goldsmith\*, Michael Hart and Charles Randklev. Thermal tolerance of *Popenais popeii* (Texas Hornshell), an endangered freshwater mussel endemic to the Rio Grande Basin
- 15:00 Brian Laub\*, Demitra Blythe, Jack Schmidt and Phaedra Budy. Controls on native fish diversity in the Big Bend and Forgotten Reach of the Rio Grande and implications for management
- 15:15 Christopher Hoagstrom\*. Meeting in the middle: biogeography of Pecos drainage Cyprinodon
- 15:30 Joshua Perkin\* and Matthew Troia. Conservation status of Chihuahuan Desert fishes in the United States: a spatial perspective
- 15:45 Russell Martin\*. Conservation of aquatic SGCN wildlife in the Trans-Pecos ecoregion of Texas
- 16:00 Robert Potts\*. Managing uplands to support riparian health
- 16:15 Ryan Smith\* and John Karges. The Nature Conservancy's history and current role in fish conservation in the Chihuahuan Desert
- 16:30 Gary Garrett\* and Megan Bean. Conservation of Chihuahuan Desert fishes - past and present

**16:45-17:00 Awards (Brandon Albrecht)**

**17:15-18:45 Business Meeting (Chair: Krissy Wilson)**

**19:00-21:00 Banquet**

**Saturday, November 23rd**

**08:30-11:00 General Session IV (Chair: Jennifer Gumm)**

- 08:30 Stephanie George, Joshua Perkin\*, Megan Bean and Dijar Lutz-Carrillo.



Conservation biogeography of Headwater Catfish (*Ictalurus lupus*) in the United States

- 08:45 Drew Dittmer\*. 2019 Bonneville Basin coordinator update
- 09:00 Matthew Breen\* and Tildon Jones. Assessment of age-0 Colorado Pikeminnow survival in backwater nursery habitats of the Middle Green River, Utah
- 09:15 Stewart Reid\*. Leave your hat in the office: informal working groups as a conservation tool
- 09:30 Kelsey Hollien\*, Drew Eppehimer, Hamdhani Hamdhani, David Quanrud and Michael Bogan. Microplastic pollution in the effluent-dependent Santa Cruz River
- 09:45 Stephani Clark Barkalow\*, Martinique Chavez and Steven Platania. Spawning periodicity and growth of larval Colorado Pikeminnow and Razorback Sucker in the San Juan River, in response to abiotic and temporal variables
- 10:00 Olin Feuerbacher\*, Jennifer Gumm, Corey Lee, Michael Schwemm, Kevin Wilson, Jeffrey Goldstein, Ambre Chaudoin, Brandon Senger, John Wullschleger, Mitchell Stanton, Javier Linares-Casenave and Alex Jones. Ecosystem simulation as an intermediate step to establishing Devils Hole Pupfish in captivity
- 10:15 Brian Kesner\*, Kurt Shollenberger and Paul Marsh. Demographics of Bonytail and Razorback Sucker in isolated ponds
- 10:30 Kevin W. Conway\*, Amanda K. Pinion, Audrey Carlos and David S. Portnoy. Comparative mitochondrial genetic investigation of three Lower Rio Grande endemic species of freshwater fishes
- 10:45 Maria de Lourdes Lozano-Vilano\*, Jorge Contreras-Lozano and Armando Contreras-Balderas. Ichthyofauna of the Bustamante River, Nuevo Leon, Mexico. Priority land region for the State

**11:00–12:15 Special Showing of Hidden Rivers. Sponsored by Freshwaters Illustrated**

**12:15 Meeting Ends**

**Recommended Self-Guided Trips for Saturday Afternoon:**

Chihuahuan Desert Research Institute (<http://www.cdri.org/>)  
Davis Mountains State Park (<https://tpwd.texas.gov/state-parks/davis-mountains>)  
Fort Davis National Historic Site (<https://www.nps.gov/foda/index.htm>)  
The Desk Hike on Hancock Hill (walking distance from Sul Ross)  
(<https://www.sulross.edu/page/1077/desk>)

**Sunday, November 24th**

**07:00-19:00 Field Trip: Mount Livermore Hike at the Davis Mountains Preserve (led by Megan Bean)**