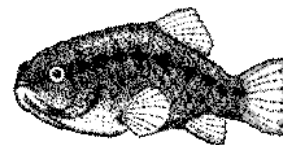


DESERT FISHES COUNCIL

CONSEJO DE LOS PECES DEL DESIERTO

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



32nd Annual Meeting Death Valley National Park 16--19 November 2000

SCHEDULE OF PRESENTATIONS

THURSDAY MORNING (16 November)

INTRODUCTION TO MEETING (P. Pister, Moderator)

08:45:00 AM - **Greetings from DFC Executive Secretary and Chair of Local Committee** - Pister, EP^{*1} (1 Desert Fishes Council, Bishop, California)

08:50:00 AM - **Welcome to Furnace Creek and Death Valley National Park** - Martin, R^{*1} (1 Death Valley National Park, Furnace Creek, California)

ECOREGION REPORTS (G. Garrett, Moderator)

09:00:00 AM - **Desert fishes research and management in Texas during 2000** - Garrett, GP^{*1}; Edwards, RJ²; Allan, NL³ (1 Texas Parks & Wildlife, HOH Research Station; 2 University of Texas-Pan American, Department of Biology; 3 U.S. Fish and Wildlife Service)

09:15:00 AM - **Overview of native fish research and management in the Upper Rio Grande Basin of Colorado and New Mexico during 2000** - Swift-Miller, S^{*1}; Chubb, S² (1 U.S. Forest Service, Rio Grande National Forest, Monte Vista, CO; 2 U.S. Forest Service, Southwestern Regional Office, Albuquerque, NM)

09:30:00 AM - **Native fish research and management in New Mexico during 2000** - Brooks, J^{*1}; Propst, D²; Dudley, R³; Hoagstrom, C¹; Monzingo, J⁴; Platania, S³; Smith, J¹ (1 U.S. Fish and Wildlife Service; 2 New Mexico Department of Game and Fish; 3 University of New Mexico; 4 U.S. Forest Service)

09:45:00 AM - **Upper Colorado River Basin area report** - Modde, T^{*1}; Crist, L² (1 U.S. Fish and Wildlife Service; 2 U.S. Bureau of Reclamation)

10:00:00 AM - **Bonneville Basin annual area report** - Andersen, ME^{*1} (1 Utah Division of Wildlife Resources)

10:15:00 AM - **Oregon area report** - White, R^{*1}; Young, D¹; Reid, S¹ (1 US Fish and Wildlife Service)

10:30:00 AM - **Northern Nevada area report** - Cook, AE^{*1}; Byers, SB^{*2} (1 Nevada Division of Wildlife; 2 USFWS, Nevada Fish & Wildlife Office)

10:45:00 AM - **Native fish and amphibian management in southern Nevada** - Stein, JR^{*1}; Heinrich, JE¹; Sjoberg, JF¹; Hobbs, BM¹; St. George, D² (1 Nevada Division of Wildlife; 2 US Fish and Wildlife Service, Ash Meadows NWR)

11:00:00 AM - **California State agency report** - Miller, R^{*1}; Threlloff, D²; Keeney, S¹; Becker, D¹; Knowles, G³; Reid, S³; Bentivoglio, A³ (1 California Department of Fish and Game; 2 Death Valley National Park; 3 US Fish and Wildlife Service)

11:15:00 AM - **Lower Colorado River area report** - Stefferud, J^{*1}; Bettaso, R²; Minckley, C³; Stefferud, S⁴; Clarkson, R⁵; Tibbitts, T⁶; Myers, T⁷; Rinne, J⁸ (1 USDA Forest Service, Tonto National Forest; 2 Arizona Game and Fish Department, Nongame Branch; 3 U.S. Fish and Wildlife Service, Arizona Fisheries)

Resource Office; 4 U.S. Fish and Wildlife Service, Arizona Ecological Services Field Office; 5 Bureau of Reclamation, Phoenix Area Office; 6 National Park Service, Organ Pipe Cactus National Monument; 7 USDA Forest Service, Apache-Sitgreaves national forests; 8 USDA Forest Service, Rocky Mountain Research Station)

- 11:30:00 AM - **Study and conservation of native fishes in the northwest region of Mexico: overview 2000** - Varela-Romero, A^{*1}; Davila-Paulin, JA²; Minckley, CO³; Najera, SN⁴; Campoy-Favela, JR⁵; Garcia-Hernandez, J⁶; Yruretagoyena, C⁷; Ellis, ME⁸ (1 DICTUS, Universidad de Sonora, Hermosillo, Sonora.; 2 Reserva de la Biosfera Gran Desierto de Altar y el Pinacate SEMARNAP, El Pinacate, Son.; 3 Arizona Fisheries Resources Office, US Fish and Wildlife Service, Park, AZ.; 4 US National Park Service, Las Cruces, NM.; 5 Reserva de la Biosfera Alto Golfo de California y Delta del Río Colorado SEMARNAP, San Luis R.C./Instituto del Medio Ambiente y Desarrollo Sustentable de Sonora (IMADES), Estación de Campo Golfo de Santa Clara, San Luis R.C., Son.; 6 Department of Soil Water and Environmental Science, University of Arizona, Tucson, AZ.; 7 Centro Regional de Estudios Ambientales, A.C. (CREAS), Mexicali, B.C.; 8 Imperial National Wildlife Refuge, U.S. Fish and Wildlife Service, Martínez Lake, AZ.)
- 11:45:00 AM - **Northeast Mexico coordinator's report** - Contreras-Balderas, S^{*1} (1 Bioconservación A.C., Monterrey, N.L., México)

ALMUERZO (1200-1400)

LCD MONITOR SESSION (1400 - 1530)

- 02:00:00 PM - **Using GIS and GPS to map the seasonal distribution and relative density of Independence Valley speckled dace and Independence Valley tui chub** - Rissler, PH^{*1}; Scopettone, GG¹; Shea, SS¹; Byers, S² (1 USGS, BRD, Western Fisheries Research Center, Reno Field Station; 2 USFWS, Nevada Fish and Wildlife Office)
- 02:15:00 PM - **Flow variation and proposed management to enhance Colorado pikeminnow and razorback sucker in the Green River subbasin** - Modde, T^{*1} (1 U.S. Fish and Wildlife Service)
- 02:30:00 PM - **A new tool for an old problem: microsatellite DNA and polymorphism of Cichlasoma minckleyi in Cuatro Ciénegas, Coahuila** - García de León, FJ¹; Hendrickson, DA² (1 Laboratorio de Biología Integrativa, Instituto Tecnológico de Ciudad Victoria, Ciudad Victoria, Tamaulipas, México; 2 Texas Memorial Museum and Section of Integrative Biology, University of Texas at Austin, Austin, Texas, U.S.A.)
- 02:45:00 PM - **Selection forces and extinction risk of the humpback chub (Gila cypha) in the Grand Canyon** - Van Haverbeke, DR^{*1} (1 United States Fish & Wildlife Service)
- 03:00:00 PM - **Exotic species and the decline of amphibians: unintended consequences on a global scale** - Vredenburg, VT^{*1} (1 Univ. of California, Dept. of Integrative Biology and Museum of Vertebrate Zoology)
- 03:15:00 PM - **Desert pupfish movements among habitats around the Salton Sea** - Sutton, RJ^{*1} (1 U.S. Bureau of Reclamation)
- 03:30:00 PM - **Deterioration of Phantom Lake Spring, Jeff Davis County, Texas** - Allan, NL^{*1} (1 U.S. Fish and Wildlife Service, Austin Field Office)

EXOTIC SPECIES (G. Scopettone, Moderator)

- 03:45:00 PM - **Determining the interspecific competitive effects of the invasive African jeweled cichlid, Hemichromis guttatus, on the endemic Cichlasoma minckleyi in Cuatro Ciénegas, México** - Williamson, CA^{*1}; Guevara, AA; Moline, AB; Hendrickson, DA; Marks, JC (1 Northern Arizona University; 2 Instituto Tecnológico de Ciudad Victoria; 3 Northern Arizona University; 4 University of Texas at Austin; 5 Northern Arizona University)
- 04:00:00 PM - **Emergency monitoring program for elimination and control of the exotic species of fishes, snails and plants of the Cuatro Ciénegas Valley, Coahuila, México** - Lozano-Vilano, ML^{*1}; García-Ramírez, ME¹; Contreras-Balderas, S²; Contreras-Balderas, AJ¹ (1 Universidad Autónoma de Nuevo León; 2 Bioconservación, A.C.)

- 04:15:00 PM - **Managing nonnative aquatic species impacts: Implementation of the 1994 Central Arizona Project biological opinion** - Stefferud, SE^{*1}; Marsh, PC²; Clarkson, RW³ (1 U.S. Fish and Wildlife Service, Phoenix, AZ; 2 Arizona State University, Department of Biology, Tempe, AZ; 3 U.S. Bureau of Reclamation, Phoenix, AZ)
- 04:30:00 PM - **First true freshwater crab found in US - at Lake Las Vegas!** - Cook, AE^{*1} (1 Nevada Division of Wildlife)
- 04:45:00 PM - **Infection relationships between an exotic digenetic trematode and native fishes in springs of west Texas** - McDermott, KS^{*1}; Brandt, TM¹ (1 USFWS, National Fish Hatchery & Technology Center)
- 05:00:00 PM - **Blue tilapia (*Oreochromis aurea*) predation on native fishes of the Muddy River, Nevada** - Scopettone, GG^{*1}; Antonio Salgado, J²; Nielsen, MB³ (1 USGS-BRD, Reno Field Station; 2 USGS-BRD, Reno Field Station; 3 USGS-BRD, Reno Field Station)
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FRIDAY MORNING (17 November)

POECILIIDAE (A.F. Echelle, Moderator)

- 08:45:00 AM - **Genealogical relationships among species of the genus *Poeciliopsis*** - Mateos, M^{*1}; Sanjur, OI²; Vrijenhoek, RC¹ (1 Monterey Bay Aquarium Research Institute; 2 NAOS Marine Lab, Smithsonian Tropical Research Institute, Panama)
- 09:00:00 AM - **Renovation and habitat restoration for Gila topminnow (*Poeciliopsis o.occidentalis*) in the Bylas Springs complex** - Schleusner, C^{*1} (1 USFWS Arizona Fishery Resources Office)
- 09:15:00 AM - **Winter reproduction of introduced poeciliids in warm springs** - Phelps, J¹; Wald, M^{*2}; Unmack, PJ³ (1 Arizona State University, Department of Biology; 2 Arizona State University, Department of Biology; 3 Arizona State University, Department of Biology)
- 09:30:00 AM - **Disease resistance in the endangered Gila topminnow** - Giese, AR^{*1}; Hedrick, PW¹ (1 Arizona State University, Department of Biology)
- 09:45:00 AM - **Effect of feeding regime on *Gambusia* cannibalism** - Hubbs, C^{*1} (1 University of Texas, Integrative Biology)
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HYBRIDIZATION/ INTROGRESSION (A.A. Echelle, Moderator)

- 10:00:00 AM - **Genetic status of Leon Springs pupfish after renovation in response to genetic introgression by an introduced pupfish** - Echelle, AA^{*1}; Echelle, AF¹; Kiner, L¹ (1 Oklahoma State University, Zoology Department)
- 10:15:00 AM - **Hybridization among suckers of the Klamath River basin, California-Oregon** - Dowling, TE^{*1}; Carson, EW¹; Markle, DF²; Cavalluzzi, MR²; Simon, D² (1 Arizona State University, Department of Biology; 2 Oregon State University, Department of Fisheries and Wildlife)
- 10:30:00 AM - **Ecological forces leading to replacement of Pecos pupfish (*Cyprinodon pecosensis*) by its hybrids with Sheepshead minnow (*C. variegatus*)** - Rosenfield, JA^{*1}; Angon, T¹; Cain, S¹; Jaeger, J¹; Sandoval, CM¹ (1 University of New Mexico, Dept. of Biology)
- 10:45:00 AM - **Hybridizing subspecies of *Poeciliopsis occidentalis*** - Hurt, CR^{*1} (1 Arizona State University, Department of Biology)
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STOCKING/ REINTRODUCTION (P. Holden, Moderator)

- 11:00:00 AM - **Juvenile growth of native fishes in the Little Colorado River: Implications for thermal modification of the Colorado River** - Robinson, AT¹; Childs, MR¹ (1 Arizona Game and Fish Department)
- 11:15:00 AM - **Upper Colorado River Recovery Program endangered fish stocking results** - Czaplá, TE¹ (1 U.S. Fish and Wildlife Service)
- 11:30:00 AM - **Habitat characteristics used by razorback suckers released into the Imperial Division, Lower Colorado River, California-Arizona; Phase III synopsis and overview of Phase IV** - Gurtin, S¹; Bradford, R¹ (1 Arizona Game and Fish Department, Research Branch)
- 11:45:00 AM - **Factors affecting the success of stocking woundfin in the Lower Virgin River** - Golden, ME¹; Holden, PB¹; Heinrich, J²; Abate, PD¹ (1 BIO/WEST Inc., Logan UT; 2 Nevada Division of Wildlife, Boulder City NV)
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ALMUERZO (1200-1400)

THE SUCKER SECTION (M. Douglas, Moderator)

- 02:00:00 PM - **Temporal and spatial use of a spawning site in the middle Green River by razorback suckers** - Modde, T¹; Kitcheyan, DC¹; Bowen, Z² (1 U.S. Fish & Wildlife Service; 2 U.S. Geological Survey)
- 02:15:00 PM - **Evolutionary history of populations of *Pantosteus discobolus* from the Little Colorado River in Arizona and New Mexico** - Secor, CL¹ (1 Arizona State University, Department of Biology)
- 02:30:00 PM - **Distribution, movements, and habitat use of razorback suckers in Lake Mohave, Arizona-Nevada** - Mueller, G¹; Marsh, PC²; Knowles, GW³; Wolters, T⁴ (1 U.S. Geological Survey; 2 Arizona State University, Department of Biology; 3 U.S. Fish and Wildlife Service; 4 Bureau of Reclamation)
- 02:45:00 PM - **Razorback sucker studies on Lake Mead, Nevada and Arizona, 1999-2000** - Abate, PD¹; Holden, PB¹; Ruppert, JB¹ (1 BIO/WEST Inc., Logan UT)
- 03:00:00 PM - **Phylogeography of the Rio Grande sucker, *Catostomus plebeius*, in New Mexico** - McPhee, MV¹; Turner, TF¹ (1 Department of Biology, University of New Mexico)
- 03:15:00 PM - **Escape response performance in the larval razorback sucker, *Xyrauchen texanus*** - Wespe, HM¹; Gibb, AC¹ (1 Northern Arizona University, Department of Biology)
- 03:30:00 PM - **Effects of temperature on swimming performance of young-of-the-year flannelmouth sucker** - Ward, DL¹ (1 University of Arizona, Fish and Wildlife Cooperative Research Unit)
- 03:45:00 PM - **Phylogeography of Sonoran sucker, *Catostomus insignis*** - Douglas, ME¹; Douglas, MR¹ (1 Arizona State University, Department of Biology and Museum)
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DFC BUSINESS MEETING 1600--1700 (P. Pister/D. Propst, Moderators)

DFC BARBEQUE (TO BE ANNOUNCED)

SATURDAY MORNING (18 November)

MOSTLY SMALLER FISHES (M.R. Douglas, Moderator)

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- 08:45:00 AM - **Contrasting patterns of mitochondrial and nuclear gene introgression in two pupfish endemic to the Cuatro Ciénegas basin, Mexico** - Carson, EW^{*1} (1 Arizona State University, Department of Biology)
- 09:00:00 AM - **Temperature effects on growth of juvenile humpback chubs** - Figiel, C Jr^{*1}; Jackson, M¹; Ulibarri, M¹ (1 U.S. Fish and Wildlife Service)
- 09:15:00 AM - **Natural selection on an allozyme locus in the White Sands pupfish?** - Miller, KM^{*1} (1 North Dakota State University)
- 09:30:00 AM - **Translocations and costs of parasitism for White Sands pupfish (*Cyprinodon tularosa*)** - Collyer, ML^{*1} (1 North Dakota State University)
- 09:45:00 AM - **Temporal genetic variation and the effective population size in the silvery minnow, *Hybognathus amarus*: a preliminary evaluation** - Turner, TF^{*1}; Alo, D¹ (1 University of New Mexico, Department of Biology and Museum of Southwestern Biology)
- 10:00:00 AM - **Comparison of *Cichlasoma minckleyi* ram and suction feeding kinematics to those of other cichlid fishes** - Hulse, CD^{*1} (1 Center for Population Biology: Section of Evolution and Ecology, University of California, Davis)
- 10:15:00 AM - **Genetic variation in speckled dace from the Virgin River basin (UT, AZ, NV)** - Douglas, MR^{*1}; Warrack, SR¹; Douglas, ME¹ (1 Arizona State University, Department of Biology and Museum)
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CONSERVATION AND MONITORING OF FISHES (T. Modde, Moderator)

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- 10:30:00 AM - **Theoretical and empirical investigations of larval fish drift in Aravaipa Creek, Arizona** - Keithley, RK^{*1}; Schwemm, MR¹; Minckley, WL¹ (1 Department of Biology, Arizona State University, Tempe, AZ.)
- 10:45:00 AM - **A newly documented locality for the desert chub (*Gila eremica*) in a tropical canyon, Río Mátape basin, Sonora, México** - Varela-Romero, A^{*1} (1 DICTUS, Universidad de Sonora, Hermosillo, Son.)
- 11:00:00 AM - **Native fish conservation and the Central Arizona Project** - Marsh, PC^{*1}; Clarkson, RW²; Stefferud, SE³ (1 Arizona State University, Department of Biology, Tempe AZ; 2 U.S. Bureau of Reclamation, Phoenix Area Office, Phoenix AZ; 3 U.S. Fish and Wildlife Service, Arizona Ecological Services Field Office, Phoenix AZ)
- 11:15:00 AM - **Conservation genetics of *Siphateles bicolor*, a threatened desert endemic** - Serway, CN^{*1}; Wilcox, JL¹; Stein, J²; Martin, AP¹ (1 University of Colorado at Boulder & Nevada Division of Wildlife; 2 Nevada Division of Wildlife)
- 11:30:00 AM - **Monitoring and conservation efforts for the desert pupfish *Cyprinodon macularius* and the Quitobaquito pupfish, *C. eremus*, on La Biosefera Alto Golfo de California y Delta del Río Colorado y La Biosfera El Pinacate y Gran Desierto de Altar, and Baja del Norte** - Minckley, CO^{*1}; Campoy-Favela, JR²; Davila-Paulin, JA³; Thorson, MS¹; Schleusner, CJ⁴ (1 Arizona Fisheries Resources Office, U.S. Fish & Wildlife Service, 60911 Hwy 95, Parker, Arizona 85344; 2 La Biosefera Alto Golfo de California y Delta del Río Colorado, SEMARNAP, A. P.452, San Luis Río Colorado, Sonora, Mexico, C.P. 83400; 3 La Biosfera El Pinacate y Gran Desierto de Altar, SEMARNAP, A.P. 125, Puerto Penasco, Sonora, Mexico, C.P. 83550; 4 Arizona Fisheries Resources Office, U.S. Fish & Wildlife Service, P.O. Box 710, Peridot, Arizona 85542)
- 11:45:00 AM - **Aspects of the life history of the roundtail chub, *Gila robusta* (Cyprinidae), in the Yampa River canyon, Colorado** - Ross, ST^{*1}; Modde, TC² (1 Department of Biological Sciences, University of Southern Mississippi; 2 U.S. Fish and Wildlife Service, Colorado River Fish Project)
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ALMUERZO (1200-1400)

CONSERVATION AND HABITAT (J. Rinne, Moderator)

- 02:00:00 PM - **A national program for monitoring stream conditions in the western United States** - Baker, JR^{*1}; Kepner, WG²; Chaloud, DJ²; Kinney, WL¹; Hamilton, ME¹; Jones, KB² (1 Lockheed Martin Environmental Services; 2 U.S. Environmental Protection Agency, Las Vegas)
- 02:15:00 PM - **Identifying areas of conservation priority for native fishes in the Gila River Basin using GIS** - Unmack, PJ^{*1}; Minckley, WL¹ (1 Arizona State University, Department of Biology)
- 02:30:00 PM - **Cienega Creek stream restoration project** - Simms, JR^{*1} (1 US Bureau of Land Management)
- 02:45:00 PM - **Recovery status of the Apache trout *Oncorhynchus apache*** - Ruiz, LR^{*1}; Gatewood, T²; Novy, JR³; Young, K⁴; Ward, J⁵ (1 USFWS, Arizona Fishery Resources Office; 2 White Mountain Apache Tribe, Wildlife and Outdoor Recreation Division; 3 Arizona Game and Fish Department; 4 Arizona Game and Fish Department; 5 USFS, Apache/Sitgreaves National Forest)
- 03:00:00 PM - **Significance of fluvial, sand-bed habitat to desert river minnow conservation** - Hoagstrom, CW^{*1} (1 U.S. Fish and Wildlife Service, New Mexico Fishery Resources Office)
- 03:15:00 PM - **Status of the Amargosa toad and habitat within the Oasis Valley, Nevada** - Stein, JR^{*1}; Hobbs, BM¹; Wasley, GA¹ (1 Nevada Division of Wildlife)
- 03:30:00 PM - **Recent changes in fish statistics: Verde River, Arizona** - Rinne, JN^{*1} (1 USDA, Forest Service, Rocky Mountain Research Station)

THE CLOSING SESSION (P. Unmack, Moderator)

- 03:45:00 PM - **Community structure and food web dynamics in Devils Hole, Nevada** - Wilson, KP^{*1}; Blinn, DW¹; Threlloff, D²; Herbst, D³ (1 Northern Arizona University, Department of Biology; 2 Death Valley National Park; 3 Sierra Nevada Aquatics Research Lab)
- 04:00:00 PM - **Ecology and status of Ash Meadows naucorid populations** - Parker, MS^{*1}; Scopettone, GG²; Neilsen, MB² (1 Southern Oregon University, Department of Biology; 2 US Geological Survey, Reno Field Station)
- 04:15:00 PM - **Desert fishes of the past: archaeological fish remains from Owens Valley, California** - Butler, VL^{*1}; Delacorte, MG² (1 Portland State University; 2 California State University, Sacramento)
- 04:30:00 PM - **Ash Meadows: a photographic perspective 1938-2000** - Webster, T^{*1}; Unmack, PJ (1 Desert Springs Action Committee; 2 Arizona State University, Department of Biology)

POSTERS

- Photophobic reactions in hydrobiid snails from the Owens Valley, California** - Bowler, PA^{*1} (1 University of California, Dept. of Ecology and Evolutionary Biology, and White Mountain Research Station, 3000 E. Line Street, Bishop, CA)
- Feeding ecology and habitat of the threespine stickleback, *Gasterosteus aculeatus* {microcephalus}, in a threatened population of northwestern Baja California, México** - Ruiz-Campos, G¹; Sánchez-González, S¹; Contreras-Balderas, S² (1 Facultad de Ciencias, Universidad Autónoma de Baja California, Ensenada, B.C., México; 2 Bioconservación, A.C., San Nicolás de los Garza, N.L., México)
- Effect of introduced crayfish on growth of two native fishes of the Colorado River basin** - Carpenter, J^{*1}; McIvor, CC¹ (1 US Geological Survey, Biological Resources Division)
- Temperature tolerances and habitat conditions for Bonneville cutthroat trout in the Thomas Fork of the Bear River, Wyoming.** - Johnstone, H C^{*1}; Rahel, F J (1 University of Wyoming, Department of Zoology and Physiology; 2 University of Wyoming, Department of Zoology and Physiology)

Bait and switch: attraction of tui chub to baited traps - Hartshorn, E^{*1}; Tobey, T N¹ (1 Bishop Union High School, CA)