

## THOMAS K. FRAZER

School of Natural Resources and Environment  
University of Florida  
103 Black Hall, PO Box 116455  
Gainesville, Florida 32611-6455

Phone: 352-392-9230  
FAX: 352-392-9748  
E-mail: frazer@ufl.edu

### Professional Preparation

Humboldt State University	Marine Fisheries (cum laude)	BS, 1986
University of Florida	Fisheries and Aquatic Sciences	MS, 1990
UC Santa Barbara	Biological Sciences	PhD, 1995

### Appointments

2013-present Director, School of Natural Resources and Environment, University of Florida  
2012-2013 Interim Director, School of Natural Resources and Environment, University of Florida  
2008-2012 Associate Director, School of Forest Resources and Conservation, University of Florida  
2008-2012 Program Leader, Fisheries and Aquatic Sciences Program, University of Florida  
2008 Associate Chair, Department of Fisheries and Aquatic Sciences, University of Florida  
2010-present Professor, School of Forest Resources and Conservation, University of Florida  
2007-2009 Research Foundation Professor, University of Florida  
2004-2009 Associate Professor, Department of Fisheries and Aquatic Sciences, University of Florida  
1998-2004 Assistant Professor, Department of Fisheries and Aquatic Sciences, University of Florida  
1996-1998 Research Assistant Professor, Department of Fisheries and Aquatic Sciences, University of Florida  
1990-1995 Graduate Research/Teaching Assistant, Department of Biological Sciences, University of California at Santa Barbara  
1988-1990 Biological Scientist II, Department of Fisheries and Aquatic Sciences, University of Florida  
1987-1988 Biological Scientist, Department of Fisheries and Aquatic Sciences, University of Florida  
1986 Fisheries Biologist, U.S. Fish and Wildlife Service, Arcata, California

## **Administration and Leadership Experience**

### *University of Florida*

2012 – Present: Director of the School of Natural Resources and Environment

Administrative Scope – The Director provides leadership and administrative oversight of all aspects of the SNRE’s academic programs. The School’s degrees access more than 300 affiliate faculty and courses delivered across 13 different UF colleges and college level units. The Director plans, implements and administers innovative, interdisciplinary degree programs and serves as Graduate and Undergraduate Coordinator for the Interdisciplinary Ecology and Environmental Science degree programs, respectively. The Director has fiscal oversight of the School and is responsible for planning and managing the academic programs budget. The Director also is responsible for attracting extramural support for the SNRE’s academic programs and private donations in support of the broader suite of activities carried within the School.

2008 – 2012: Associate Director of the School of Forest Resources and Conservation and Leader of the Fisheries and Aquatic Sciences Program

Administrative Scope - Provide school-wide leadership in Research, Teaching and Extension and with the SFRC Director manage a facility that houses over 250 faculty, staff and graduate students. The Associate Director reports directly to the Director of the SFRC and assists with fiscal, administrative and personnel matters.

2008: Associate Chair, Department of Fisheries and Aquatic Sciences

Administrative Scope – Provide leadership in Research, Teaching and Extension and with the FAS Chair manage an academic unit that comprises 15 tenure track/tenured faculty, 10 resident scientists, and ~ 25 graduate students. The Associate Chair assists with all fiscal, administrative and personnel matters.

## **Research Narrative**

The overarching goals of my individual and collaborative research efforts are to develop and transfer into management a mechanistic understanding of the effects of anthropogenic activities on the ecology of both freshwater and marine ecosystems. My research is, by nature, interdisciplinary and involves collaborators from disparate disciplines and is carried across broad space and time scales in order to most effectively address contemporary and emerging environmental issues.

## Publications

### *Refereed Publications*

- Liebowitz, D.M., M.J. Cohen, J.B. Heffernan, L.V. Korhnak and T.K. Frazer. Accepted with revision. Environmentally mediated consumer control of algal proliferation in Florida springs. *Freshwater Biology*
- Mintzer, V.J., M. Schmink, K. Lorenzen, T.K. Frazer, A.R. Martin and V.M.F. da Silva. Accepted with minor revision. An evaluation of the interactions between fishers and Amazon River dolphins (*Inia geoffrensis*) in a Brazilian protected area: a human dimensions perspective. *Biodiversity and Conservation*
- Brown, A.L., J. Zill, T.K. Frazer and C.W. Osenberg. 2014. Death and life: Muricid snails consume the vermetid gastropod, *Dendropoma maximum*, and use empty shells for reproduction. *Coral Reefs* [In Press; DOI 10.1007/s00338-014-1141-6]
- Choice, Z.D., T.K. Frazer and C.A. Jacoby. 2014. Light requirements of seagrasses determined from historical records of light attenuation along the Gulf coast of peninsular Florida. *Marine Pollution Bulletin* 84:91-102.
- Diller, J.L., T.K. Frazer and C.A. Jacoby. 2014. Coping with the lionfish invasion: evidence that naïve, native predators can learn to help. *Journal of Experimental Marine Biology and Ecology* 455:45-49.
- Huge, D.H., P.J. Schofield, C.A. Jacoby and T.K. Frazer. 2014. Total mercury concentrations in lionfish (*Pterois volitans/miles*) from the Florida Keys National Marine Sanctuary, USA. *Marine Pollution Bulletin* 78:51-55.
- Camp, E.V., C.L. Staudhammer, W.E. Pine III, J.C. Tetzlaff and T.K. Frazer. 2014. Replacement of rooted macrophytes by filamentous macroalgae: effects on small fishes and macroinvertebrates. *Hydrobiologia* 722:159-170.
- Manfrino, C., C.A. Jacoby, E. Camp and T.K. Frazer. 2013. A positive trajectory for corals at Little Cayman Island. *PLoS ONE* 8(10):e75432.\*

*\*Highlighted in the Editors' Choice section of Science [Vol 342; p.535]*

- Barry, S.C., T.K. Frazer and C.A. Jacoby. 2013. Production and carbonate dynamics of *Halimeda incrassata* (Ellis) Lamouroux altered by *Thalassia testudinum* Banks and Soland ex Konig. *Journal of Experimental Marine Biology and Ecology* 444:73-80.
- Schofield, O., M. Moline, B. Cahill, T. Frazer, A. Kahl, M. Oliver, J. Reinfelder, S. Glenn and R. Chant. 2013. Phytoplankton productivity in a turbid buoyant coastal plume. *Continental Shelf Research* 63:S138-S148.
- Lauretta, M.V., E.V. Camp, W.E. Pine and T.K. Frazer. 2013. Catchability model selection for estimating the composition of fishes and invertebrates within dynamic aquatic ecosystems. *Canadian Journal of Fisheries and Aquatic Sciences* 70:381-392.
- Mintzer, V.J., A.R. Martin, V. M.F. da Silva, A.B. Barbour, K. Lorenzen and T.K. Frazer. 2013. Effect of illegal harvest on apparent survival of Amazon River dolphins (*Inia geoffrensis*). *Biological Conservation* 158:280-286.
- Frazer, T.K., C.A. Jacoby, M.A. Edwards, S.C. Barry and C.M. Manfrino. 2012. Coping with lionfish: can targeted removals yield beneficial effects? *Reviews in Fisheries Science* 20:185-191.
- Frost, J., C.A. Jacoby, T.K. Frazer and A. Zimmerman. 2012. Bacterial decomposition of *Chrysaora quinquecirrha* (Desor 1848) supplies carbon, nitrogen and phosphorous. *Hydrobiologia* 690:247-256.
- Camp, E.V., D.C. Gwinn, W.E. Pine and T.K. Frazer. 2012. Changes in submersed aquatic vegetation affect predation risks of common prey fish *Lucania parva* (Cyprinodontiformes: Fundulidae) in a spring-fed coastal river. *Fisheries Management and Ecology*. 19:245-251.
- Van Holt, T., C.A. Moreno, M.W. Binford, K.M. Portier, S. Muslow and T.K. Frazer. 2012. Influence of landscape change on a nearshore fisheries in southern Chile. *Global Change Biology* 18(7):2147-2160.
- Barbour, A.B., M.S. Allen, T.K. Frazer and K.D. Sherman. 2011. Evaluating the potential efficacy of invasive lionfish (*Pterois volitans*) removals. *PLoS ONE* 6(5):e19666 (doi: 10.1371/journal.pone.0019666)
- Camp, E.V., D.C. Gwinn, M.V. Lauretta, W.E. Pine and T.K. Frazer. 2011. Use of recovery probabilities can improve sampling efficiency for throw traps in vegetated habitats. *Transactions of the American Fisheries Society* 140:164-169.

- Lazar, K.L., T.K. Frazer, C.A. Jacoby and C.M. St. Mary. 2011. Reproductive strategy of *Siderastrea radians* (Pallas 1766) in the St. Martins Keys, Florida. *Bulletin of Marine Science* 87:91-111.
- Duarte, C.M., R. Martinez, Y.T. Prairie, T.K. Frazer, M.V. Hoyer, S.K. Notestein and D.E. Canfield. 2010. Rapid accretion of dissolved organic carbon in the springs of Florida: the most organic-poor natural waters. *Biogeosciences* 7:4051-4057.
- Wright, D.D., T.K. Frazer and J.R. Reinfelder. 2010. The influence of river plume dynamics on trace metal accumulation in calanoid copepods. *Limnology and Oceanography* 55(6):2487-2502.
- Heffernan, J.B., M.J. Cohen, T.K. Frazer, R.G. Thomas, T.J. Rayfield, J. Gulley, J.B. Martin, J.J. Delfino and W.D. Graham. 2010. Nitrogen dynamics in a spring-fed Florida river. *Limnology and Oceanography*. 55(1):249-263.
- Heffernan, J.B., D.M. Liebowitz, T.K. Frazer, J.M. Evans and M.J. Cohen. 2010. Algal blooms and the nitrogen-enrichment hypothesis in Florida springs: evidence, alternatives, and adaptive management. *Ecological Applications* 20(3):816-829.
- Tetzlaff, J.C., W.E. Pine III and T.K. Frazer. 2009. Comparison of bioenergetics parameters from two spring-fed riverine largemouth bass populations. *The Open Fish Science Journal* 2:1-14 [ISSN: 1874-401X/09]
- Ortega-Retuerta, E., T.K. Frazer, C.M. Duarte, S. Ruiz, A. Tovar-Sanchez, J.M. Arrieta and I. Reche. 2009. Biogenesis of chromophoric dissolved organic matter by bacteria and krill in the Southern Ocean. *Limnology and Oceanography* 54(6):1941-1950.
- Tomasko, D.A., E. Hyfield-Keenan, L. De Brabandere, J.P. Montoya and T.K. Frazer. 2009. Assessment of water quality responses to sediment removal in Lake Hancock. *Florida Scientist* 72(4):346-366.
- Jacoby, C.A. and T.K. Frazer. 2009. Eutrophication: time to adjust expectations. *Science* 324:723-724.
- Grober-Dunsmore, R., V. Bonito and T.K. Frazer. 2009. 1,000 feet above a coral reef: a seascape approach to designing marine protected areas. *Park Science* 26:22-26.

- De Brabandere, L., M. J. Catalano, T.K. Frazer and M.S. Allen. 2009. Stable isotope evidence of ontogenetic changes in the diet of gizzard shad (*Dorosoma cepedianum*) with implications for biomanipulation of a shallow eutrophic lake. *Journal of Fish Biology* 74:105–119.
- Moline, M.A., T.K. Frazer, R. Chant, S. Glenn, C.A. Jacoby, J.R. Reinfelder, J. Yost, M. Zhou and O.M.E. Schofield. 2008. Biological responses in a dynamic, buoyant river plume. *Oceanography* 21:70–89.
- Frazer, T.K. and C.A. Jacoby. 2008. Estimating rates of microzooplankton grazing. *Oceanography* 21:79.
- Chant, R.J., J. Wilkin, W. Zhang, B.J. Choi, E. Hunter, R. Castelao, S. Glenn, J. Jurisa, O. Schofield, R. Houghton, J. Kohut, T.K. Frazer and M.A. Moline. 2008. Dispersal of the Hudson River plume on the New York Bight: synthesis of observational and numerical studies during LaTTE. *Oceanography* 21:148–161.
- Moline, M.A., N.J. Karnovsky, Z. Brown, G.J. Divoky, T.K. Frazer, C.A. Jacoby, J.J. Torres and W.R. Fraser. 2008. High latitude changes in ice dynamics and their impact on polar marine ecosystems. *Annals of the New York Academy of Sciences* 1134:267–319. [Book Series: Year in Ecology and Conservation Biology]
- Grober-Dunsmore, R., T.K. Frazer, J.P. Beets, W.J. Lindberg, P. Zwick and N. Funicelli. 2008. Influence of landscape structure on reef fish assemblages. *Landscape Ecology* 23:37–53.
- Greenawalt-Boswell, J.M., T.K. Frazer, C.A. Jacoby and W.S. Arnold. 2007. Estimates of mortality and exploitation rates for the recreational bay scallop fishery off the Gulf coast of Florida, USA. *North American Journal of Fisheries Management* 27:1230–1242.
- De Brabandere, L., T.K. Frazer and J.P. Montoya. 2007. Stable nitrogen isotope ratios of macrophytes and associated periphyton in two subtropical, spring-fed streams. *Freshwater Biology* 52:1564–1574.
- Hauxwell, J., T.K. Frazer and C.W. Osenberg. 2007. An annual cycle of biomass and productivity of *Vallisneria americana* in a subtropical spring-fed estuary. *Aquatic Botany* 87:61–68.

- Grober-Dunsmore, R., V. Bonito and T. K. Frazer. 2007. Discerning sexual recruits is beneficial, but not critical for assessing recovery of *Acropora palmata* populations. *Marine Ecology Progress Series* 335:233–236.
- Grober-Dunsmore, R., T.K. Frazer, W.J. Lindberg and J.P. Beets. 2007. Reef fish and habitat relationships in a Caribbean seascape: the importance of reef context. *Coral Reefs* 26:201–216.
- Calleja, M.L., C. Barrón, J.A. Hale, T.K. Frazer and C.M. Duarte. 2006. Light regulation of benthic sulfate reduction rates mediated by seagrass (*Thalassia testudinum*) metabolism. *Estuaries and Coasts* 29:1255–1264.
- Frazer, T.K., S.K. Notestein, C.A. Jacoby, C.J. Littles, S.R. Keller and R.A. Swett. 2006. Effects of storm-induced salinity changes on submersed aquatic vegetation in Kings Bay, Florida. *Estuaries and Coasts* 29:943–953.
- Agustí, S., E. Alou, M.V. Hoyer, T.K. Frazer and D.E. Canfield. 2006. Cell death in lake phytoplankton communities. *Freshwater Biology* 51:1496–1506.
- Grober-Dunsmore, R., V. Bonito and T. K. Frazer. 2006. Potential inhibitors to the recovery of *Acropora palmata* populations in St. John, US Virgin Islands. *Marine Ecology Progress Series* 321:123–132.
- Hoyer, M.V., S.K. Notestein, T.K. Frazer and D.E. Canfield. 2006. Bird density and species richness on five Florida coastal rivers, with comparisons to Florida freshwater lakes. *Hydrobiologia* 567:5–18.
- Lindberg, W.J., T.K. Frazer, K.P. Portier, F. Vose, J. Loftin, D. Murie, D.M. Mason, B. Nagy and M.K. Hart. 2006. Density-dependent habitat selection and performance by a large mobile reef fish. *Ecological Applications* 16:731–746.
- Lindberg, W.J., T.K. Frazer, K.P. Portier, F. Vose, J. Loftin, D. Murie, D.M. Mason, B. Nagy and M.K. Hart. 2006. Appendix A: procedures for using the fitted linear model to predict mean gag abundances. *Ecological Archives* A016-029-A1. [<http://www.esapubs.org/archive/appl/A016/029/appendix-A.htm>]
- Moline, M.A., H. Claustre, T.K. Frazer, J. Grzyski, O. Schofield and M. Vernet. 2004. Alteration of the food web along the Antarctic Peninsula in response to a regional warming trend. *Global Change Biology* 10:1–8.

- Hoyer, M.V., T.K. Frazer, S.K. Notestein and D.E. Canfield. 2004. Vegetative characteristics of three low-lying Florida coastal rivers in relation to flow, light, salinity and nutrients. *Hydrobiologia* 528:31–43.
- Hauxwell, J., T.K. Frazer and C.W. Osenberg. 2004. Grazing by manatees excludes both new and established wild celery transplants: implications for restoration in Kings Bay, Florida, USA. *Journal of Aquatic Plant Management* 42:49–53.
- Greenawalt, J.M., T.K. Frazer, S.R. Keller and C.A. Jacoby. 2004. Abundance and sizes of bay scallops in heterogeneous habitats along the Gulf coast of Florida. *Gulf of Mexico Science* 2004:74–84.
- Hauxwell, J.A., C.W. Osenberg and T.K. Frazer. 2004. Conflicting management goals: manatees and invasive competitors inhibit restoration of a native macrophyte. *Ecological Applications* 14:571–586.
- Hale, J.A., T.K. Frazer, D.A. Tomasko and M.O. Hall. 2004. Changes in the distribution of seagrass species along Florida's central Gulf coast – Iverson and Bittaker revisited. *Estuaries* 27:36–43.
- Quetin, L.B., R.M. Ross, T.K. Frazer, M.O. Amsler, C. Wyatt-Evens and S.A. Oakes. 2003. Growth of larval krill, *Euphausia superba*, in fall and winter west of the Antarctic Peninsula. *Marine Biology* 143:833–843.
- Schofield, O., P.W. Bissett, T.K. Frazer, D. Iglesias-Rodriguez, M.A. Moline and S. Glenn. 2003. Development of regional coastal ocean observatories and the potential benefits to marine sanctuaries. *Marine Technology Society Journal* 37:54–67.
- Notestein, S.K., T.K. Frazer, M.V. Hoyer and D.E. Canfield, Jr. 2003. Nutrient limitation of periphyton in a spring-fed stream coastal stream in Florida, USA. *Journal of Aquatic Plant Management* 41:57–60.
- Glancy, T.P., T.K. Frazer, C.E. Cichra and W.J. Lindberg. 2003. Comparative patterns of occupancy by decapod crustaceans in seagrass, oyster, and marsh edge habitats in a northeast Gulf of Mexico estuary. *Estuaries* 26:1291–1301.
- Frazer, T.K., L.B. Quetin and R.M. Ross. 2002. Energetic demands of larval krill, *Euphausia superba*, in winter. *Journal of Experimental Marine Biology and Ecology* 277:157–171.



- Frazer, T.K., L.B. Quetin and R.M. Ross. 2002. Abundance, sizes and developmental stages of larval krill, *Euphausia superba*, in ice covered seas west of the Antarctic Peninsula. *Journal of Plankton Research* 24:1067–1077.
- Hoyer, M.V., T.K. Frazer, S.K. Notestein and D.E. Canfield, Jr. 2002. Nutrient, chlorophyll and water clarity relationships in Florida's nearshore coastal waters with comparisons to freshwater lakes. *Canadian Journal of Fisheries and Aquatic Sciences* 59:1024–1031.
- Gu, B., D.M. Schell, T. Frazer, M. Hoyer and F.A. Chapman. 2001. Stable carbon isotope evidence for reduced feeding/forced fasting of Gulf of Mexico sturgeon during their prolonged river residence period. *Estuarine Coastal and Shelf Science* 53:275–280.
- St. Mary, C.M., C.W. Osenberg, T.K. Frazer and W.J. Lindberg. 2000. Stage structure, density dependence and efficacy of marine reserves. *Bulletin of Marine Science* 66:675–690.
- Frazer, T.K., R.M. Ross, L.B. Quetin and J.P. Montoya. 1997. Turnover of carbon and nitrogen during growth of larval krill, *Euphausia superba* Dana: a stable isotope approach. *Journal of Experimental Marine Biology and Ecology* 212:259–275.
- Frazer, T.K. 1996. Stable isotope composition ( $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$ ) of larval krill, *Euphausia superba*, and two of its potential food sources in winter. *Journal of Plankton Research* 18:1413–1426.
- Frazer, T.K. and W.J. Lindberg. 1994. Refuge spacing similarly affects reef-associated species from three phyla. *Bulletin of Marine Science* 55:388–400.
- Quetin, L.B., R.M. Ross, T.K. Frazer and T. Moylan. 1992. Summary of WinCruise IV to the Antarctic Peninsula during September 1991. *Antarctic Journal of the U.S.* 27:137–138.
- Lindberg, W.J., T.K. Frazer and G.R. Stanton. 1991. Spatial structure in a stone crab population (Brachyura: Xanthidae) and the interplay with resource mosaics. *Memoirs of the Queensland Museum* 31:392.
- Frazer, T.K., W.J. Lindberg and G.R. Stanton. 1991. Predation on sand dollars by the gray triggerfish, *Balistes capriscus*, in the northeastern Gulf of Mexico. *Bulletin of Marine Science* 48:159–164.

Lindberg, W.J., T.K. Frazer and G.R. Stanton. 1990. Population effects of refuge dispersion for adult stone crabs (Xanthidae, *Menippe*). *Marine Ecology Progress Series* 66:239–249.

Seaman, W.J., Jr., W.J. Lindberg, C.R. Gilbert and T.K. Frazer. 1989. Fish habitat provided by obsolete petroleum platforms off southern Florida. *Bulletin of Marine Science* 44:1014–1022.

### ***Books Chapters***

Grober-Dunsmore, R., S.J. Pittman, C. Caldow, M.S. Kendall and T.K. Frazer. 2009. A landscape ecology perspective for the study of ecological connectivity across tropical marine seascapes. Pp. 493-530. *In*: I. Nagelkerken (ed.), *Ecological connectivity among tropical coastal ecosystems*. Springer, New York. 615 pp. [ISBN: 978-90-481-2405-3; e-ISBN 978—90-481-2406-0]

Mattson, R.A., T.K. Frazer, J.A. Hale, S.B. Blich and L. Ahijevych. 2007. The Florida Big Bend. pp. 170–205. *In*: L. Handley, D. Altsman and R. DeMay (eds.), *Seagrass status and trends in the northern Gulf of Mexico: 1940–2002*: U.S. Geological Survey Scientific Investigations Report 2006–5287 and U.S. Environmental Protection Agency 855–R–04–003, 267 pp. [<http://pubs.usgs.gov/sir/2006/5287/>]

Haddock, S.H.D. and J.N. Heine. 2005. *Scientific blue-water diving*. California Sea Grant, La Jolla, California. 50 pp. [Contributing authors – L.P. Madin, T.K. Frazer and L.B. Quetin]

Moline, M.A., H. Claustre, T.K. Frazer, J. Grzyski, O. Schofield and M. Vernet. 2000. Changes in phytoplankton assemblages along the Antarctic Peninsula and potential implications for the Antarctic food web. pp. 263–271. *In*: W. Davison, C. Howard-Williams and P. Broady (eds.), *Antarctic ecosystems: models for a wider ecological understanding*. Cambridge University Press.

Frazer, T.K., L.B. Quetin and R.M. Ross. 1997. Abundance and distribution of larval krill, *Euphausia superba*, associated with annual sea ice in winter. pp. 107–111. *In*: B. Battaglia, J. Valencia and D.W.H. Walton (eds.), *Antarctic communities*. Cambridge University Press.

Quetin, L.B., R.M. Ross, T.K. Frazer and K.L. Haberman. 1996. Factors affecting distribution and abundance of zooplankton, with an emphasis on Antarctic krill, *Euphausia superba*. pp. 357–371. In R.M. Ross, E.E. Hofmann and L.B. Quetin (eds.), Foundations for ecological research west of the Antarctic Peninsula. Antarctic Research Series, Volume 70, American Geophysical Union.

### ***Proceedings***

Frazer, T.K., O. Schofield, M.A. Moline, S.M. Glenn, J. Kohut, R.J. Chant, S.R. Keller, M. Oliver, J.R. Reinfelder, M. Zhou and R.F. Chen. 2006. Coastal ocean observatories enable biological investigations in a buoyant plume. OCEANS 2006 MTS/IEEE: Revolutionizing Marine Science and Technology. Conference Proceedings. [Online publication; ISBN:1-4244-0115-1; Digital Object Identifier: 10.1109/OCEANS.2006.306827]

Grober-Dunsmore, R., T.K. Frazer, J.P. Beets, N. Funicelli and P.D. Zwick. 2004. The utility of landscape ecology metrics to predict reef fish assemblage structure. Proceedings of the 55<sup>th</sup> Annual Meeting of the Gulf and Caribbean Fisheries Institute. pp. 713–734.

Hale, J.A. and T.K. Frazer. 2000. Image enhancements applied to scanned aerial photographs for benthic habitat mapping. Proceedings of the Sixth International Conference on Remote Sensing for Marine and Coastal Environments. Volume I. pp. 459–467.

Frazer, T.K., J.P. Montoya, M.V. Hoyer and E.L. Bledsoe. 1997. Movement of nitrogen in Florida's coastal spring-fed rivers and their estuaries: using stable nitrogen isotopes as *in situ* tracers. paper provided to the International Council for the Exploration of the Sea (ICES) as part of the Annual Science Conference (85<sup>th</sup> Statutory Meeting).

Seaman, W., Jr., W.J. Lindberg, T.K. Frazer and K. Portier. 1995. Fish abundance and diversity in response to variable dispersion of artificial reef units. pp. 12–17. In: Japan International Marine Science and Technology Federation (Secretariat). Proceedings of ECOSET '95, International Conference on Ecological System Enhancement Technology for Aquatic Environments, Tokyo, Japan.

### *Reports and Technical Papers*

- Graham, W.D., M.W. Clark, M.J. Cohen, T.K. Frazer and J.B. Martin. 2013. Peer review of the proposed minimum flows and levels for the lower Santa Fe and Ichetucknee rivers and associated priority springs. Final Panel Report. Suwannee River Water Management District, Live Oak, Florida. 57 pp.
- Jacoby, C. A., T.K. Frazer, M. Edwards and P. Gardner. 2013. Kings Bay algal grazer evaluation. Annual Report. Southwest Florida Water Management District, Brooksville, Florida. 5 pp.
- Jacoby, C.A., T.K. Frazer, J.R. Frost, L.G. Chambers and S.K. Notestein. 2013. Kings Bay sediment feasibility study. Annual Report. Southwest Florida Water Management District, Brooksville, Florida. 8 pp.
- Jacoby, C.A., T.K. Frazer, R.A. Swett, S. Notestein and G. Davidson. Kings Bay vegetation mapping and evaluation. 2013. Annual Report. Southwest Florida Water Management District, Brooksville, Florida. 31 pp.
- Jacoby, C.A., T.K. Frazer, D.D. Saindon, S.R. Keller and S.K. Notestein. 2013. Water quality characteristics of the nearshore Gulf coast waters adjacent to Pasco County: Project COAST 2000–2012. Final Report. Southwest Florida Water Management District, Brooksville, Florida. 12 pp.
- Jacoby, C.A. and T.K. Frazer. 2011. Linking seagrass performance measures to water quality. Final Report. Florida Fish and Wildlife Commission Florida Wildlife Legacy Initiative, Tallahassee, Florida. 21 pp.
- Jacoby, C.A. and T.K. Frazer. 2012. Defending reefs from invasive lionfish. Final report submitted to the Disney Worldwide Conservation Fund. 7 pp.
- Jacoby, C.A., T.K. Frazer, D.D. Saindon, S.R. Keller and S.K. Notestein. 2012. Water quality characteristics of the nearshore Gulf coast waters adjacent to Citrus, Hernando and Levy counties: Project COAST 1997–2011. Final Report. Southwest Florida Water Management District, Brooksville, Florida. 14 pp.
- Jacoby, C.A. and T.K. Frazer. 2012. Linking seagrass performance measures to water quality. Annual Report submitted to the Florida Fish and Wildlife Commission Florida Wildlife Legacy Initiative. 9 pp.
- Jacoby, C.A. T.K. Frazer and S.K. Notestein. 2012. Understanding nitrate processing in spring-fed rivers. Annual Report. Southwest Florida Water Management District, Brooksville, Florida. 8 pp.

- Jacoby, C.A., T.K. Frazer, R.A. Swett, S. Notestein and G. Davidson. Kings Bay vegetation mapping and evaluation. 2012. Annual Report. Southwest Florida Water Management District, Tampa, Florida. 31 pp.
- T.K. Frazer, M.V. Lauretta and W.E. Pine. 2011. Nutrient loading of spring-fed coastal rivers: effects on habitat and faunal communities. Final Report. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida. Pp. 153.
- Jacoby, C.A. T.K. Frazer, D.D. Saindon and S.K. Notestein. 2011. Water quality characteristics of the nearshore Gulf coast waters adjacent to Citrus, Hernando and Levy Counties: Project COAST 1997-2010. Annual Report. Southwest Florida Water Management District, Brooksville, FL . Pp.14.
- Jacoby, C.A. T.K. Frazer, D.D. Saindon, and S.K. Notestein. 2011. Water quality characteristics of the nearshore Gulf coast waters adjacent to Pasco County: Project COAST 2000-2010. Annual Report. Southwest Florida Water Management District, Brooksville, FL . Pp.13.
- Behringer DC, Swett RA and TK Frazer. 2011. Determining coral reef impacts associated with boat anchoring and user activity in southeast Florida. Final Report. Southeast Florida Coral Reef Initiative and Florida Department of Environmental Protection, Miami Beach, FL. Pp 66.
- Jacoby, C.A. and T.K. Frazer. 2011. Linking seagrass performance measures to water quality. Annual Report. Florida Fish and Wildlife Commission Florida Wildlife Legacy Initiative, Tallahassee, Florida. 9 pp.
- Pine, W.E., T.K. Frazer, C.L. Staudhammer, E.V. Camp and A. Dutterer. 2011. Fish habitat relationships in Florida springs: Do submersed plants and filamentous algae influence the population structure and production of small-bodied fishes? Final Report. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida. Pp. 98.
- Jacoby, C.A., T.K. Frazer, R.A. Swett, S.K. Notestein, D. Saindon and G. Davidson. 2011. Characterization of submersed aquatic vegetation in Kings Bay to support development of minimum flows for the Crystal River system. Report. Southwest Florida Water Management District, Brooksville, Florida. 44 pp.
- Frazer, T.K., C.A. Jacoby and S.K. Notestein. 2010. Compilation and synthesis of existing data in support of the determination of minimum flows for Crustal River: summary of previous studies and data collection efforts. Report. Southwest Florida Water Management District, Brooksville, Florida. 149 pp.

- Jacoby, C.A., T.K. Frazer and D.D. Saindon. 2009. Water quality characteristics of the nearshore Gulf coast waters adjacent to Pasco County: Project COAST 2000–2008. Final Report. Southwest Florida Water Management District, Brooksville, Florida. 14 pp.
- Jacoby, C.A., T.K. Frazer and D.D. Saindon. 2009. Water quality characteristics of the nearshore Gulf coast waters adjacent to Citrus, Hernando and Levy Counties: Project COAST 1997–2008. Final Report. Southwest Florida Water Management District, Brooksville, Florida. 18 pp.
- Brown, M.T., K.C. Reiss, M.J. Cohen, J.M. Evans, K.R. Reddy, P.S. Inglett, K.S. Inglett, T.K. Frazer, C.A. Jacoby, E.J. Philips, R.L. Knight, S.K. Notestein and K.A. McKee. 2008. Summary and synthesis of the available literature on the effects of nutrients on spring organisms and systems. Final Report. Florida Department of Environmental Protection, Tallahassee, Florida. 376 pp.
- Jacoby, C.A., T.K. Frazer, D.D. Saindon, S.R. Keller and D.C. Behringer, Jr. 2008. Water quality characteristics of the nearshore Gulf coast waters adjacent to Pasco County: Project COAST 2000–2007. Annual Report. Southwest Florida Water Management District, Brooksville, Florida. 51 pp.
- Jacoby, C.A., T.K. Frazer, D.D. Saindon, S.R. Keller and D.C. Behringer, Jr. 2008. Water quality characteristics of the nearshore Gulf coast waters adjacent to Citrus, Hernando and Levy Counties: Project COAST 1997–2006. Annual Report. Southwest Florida Water Management District, Brooksville, Florida. 62 pp.
- Jacoby, C.A., T.K. Frazer, R.A. Swett, S.R. Keller and S.K. Notestein. 2007. Kings Bay vegetation evaluation. Final Report. Southwest Florida Water Management District, Brooksville, Florida. 166 pp.
- PBS&J. 2007. Assessment of water quality responses to sediment removal in Lake Hancock. Final Report. Polk County Natural Resources Division and Florida Department of Environmental Protection. 82 pp. [Contributor with – D.A. Tomasko, E. Keenan, J.P. Montoya and L. De Brabandere<sup>a</sup>]
- Allen, M.S., M.J. Catalano<sup>b</sup>, J.R. Dotson, L. De Brabandere and T.K. Frazer. 2007. Biomanipulation impacts on gizzard shad population dynamics, Lake Water Quality, and a Recreational Fishery. Final Report. St. Johns River Water Management District, Palatka, Florida. 142 pp.

- Frazer, T.K., C.A. Jacoby, D.D. Saindon, S.R. Keller and D.C. Behringer, Jr. 2007. Water quality characteristics of the nearshore Gulf Coast waters adjacent to Pasco County: Project COAST 2000–2006. Annual Report. Southwest Florida Water Management District, Brooksville, Florida. 47 pp.
- Frazer, T.K., C.A. Jacoby, D.D. Saindon, S.R. Keller and D.C. Behringer, Jr. 2007. Water quality Characteristics of the nearshore Gulf coast waters adjacent to Citrus, Hernando and Levy Counties: Project COAST 1997–2006. Annual Report. Southwest Florida Water Management District, Brooksville, Florida. 58 pp.
- Tomasko, D.A., J. Montoya and T. Frazer. 2006. Estimation of the role of nitrogen fixation in Lake Jesup. Final Report. Seminole County, Florida. 11pp.
- Hoyer, M.V., S.K. Notestein, T.K. Frazer and D.E. Canfield. 2006. Bird density and species richness on five Florida coastal rivers, with comparisons to Florida freshwater lakes. A contribution in: Hanson, A., J. Kerekes and J. Paquet. 2006. Limnology and aquatic birds: abstracts and selected papers from the fourth conference of the Societas Internationalis Limnologiae (SIL) Aquatic Birds Working group. Canadian Wildlife Service Technical Report Series No. 474 Atlantic Region. 214 pp.
- Frazer, T.K., S.K. Notestein and W.E. Pine. 2006. Changes in the physical, chemical and vegetative characteristics of the Homosassa, Chassahowitzka and Weeki Wachee Rivers. Final Report. Southwest Florida Water Management District, Brooksville, Florida. 163 pp.
- Frazer, T.K., S.K. Notestein<sup>b</sup>, S.R. Keller and C.A. Jacoby. 2006. Water quality characteristics of the nearshore Gulf coast waters adjacent to Pasco County: Project COAST 2000–2005. Final Report. Southwest Florida Water Management District, Brooksville, Florida. 46 pp.
- Frazer, T.K., S.K. Notestein, S.R. Keller and C.A. Jacoby. 2006. Water quality characteristics of the nearshore Gulf coast waters adjacent to Citrus, Hernando and Levy Counties: Project COAST 1997–2005. Final Report. Southwest Florida Water Management District, Brooksville, Florida. 119 pp.
- Notestein, S.K., T.K. Frazer, S.R. Keller and R.A. Swett. 2006. Kings Bay vegetation evaluation 2005. Final Report. Southwest Florida Water Management District, Brooksville, Florida. 92 pp.

- Frazer, T.K., S.K. Notestein, S.R. Keller and C.A. Jacoby. 2005. Water quality characteristics of the nearshore Gulf coast waters adjacent to Pasco County: Project COAST 2000–2004. Annual Report. Southwest Florida Water Management District, Brooksville, Florida. 18 pp.
- Frazer, T.K., S.K. Notestein, S.R. Keller and C.A. Jacoby. 2005. Water quality characteristics of the nearshore Gulf coast waters adjacent to Citrus, Hernando and Levy Counties: Project COAST 1997–2004. Annual Report. Southwest Florida Water Management District, Brooksville, Florida. 9 pp.
- Notestein, S.K., T.K. Frazer, S.R. Keller and R.A. Swett. 2005. Kings Bay vegetation evaluation 2004. Final Report. Southwest Florida Water Management District, Brooksville, Florida. 94 pp.
- Allen, M.S., T.K. Frazer and R.W. Lee. 2005. A stable isotope characterization of the food web in Lake Dora, Florida. Final Report. St. Johns River Water Management District, Palatka, Florida.
- Lindberg, W. J., D.M. Mason, D.J. Murie, T. K. Frazer and K. P. Portier. 2004. Habitat selection and the performance of gag grouper across a range of hard bottom habitat in the northeastern Gulf of Mexico. National Marine Fisheries Service, MARFIN Program (grant no. NA04NMF4330075).
- Phlips, E.J., S.M. Baker, D.J. Murie and T.K. Frazer. 2005. Costal eutrophication and the productivity of clams and oysters. Final Report. US Department of Agriculture-CRIS. Accession #0186830.
- Frazer, T.K., S.K. Notestein and C.A. Jacoby. 2004. Water quality characteristics of the nearshore Gulf coast waters adjacent to Pasco County – Project COAST 2000 through 2003. Annual Report. Southwest Florida Water Management District, Brooksville, Florida. 109 pp.
- Frazer, T.K., S.K. Notestein, C.A. Jacoby and J.A. Hale. 2004. Water quality characteristics of the nearshore Gulf coast waters adjacent to Citrus, Hernando and Levy Counties – Project COAST 1997 through 2003. Annual Report. Southwest Florida Water Management District, Brooksville, Florida. 172 pp.
- Kurz, R.C., D.C. Woithe, S.K. Notestein, T.K. Frazer, J.A. Hale and S.R. Keller. 2004. Mapping and monitoring submerged aquatic vegetation in Ichetucknee Springs – 2004. Final Report. Suwannee River Water Management District, Live Oak, Florida. 39 pp. (plus appendices)



- Frazer, T.K., S.K. Notestein, J.A. Hale, M.V. Hoyer and D.E. Canfield, Jr. 2003. Water quality characteristics of the nearshore Gulf coast waters adjacent to Pasco County – Project COAST 2002. Final Report. Southwest Florida Water Management District, Brooksville, Florida. 13 pp. (plus appendices, figures and tables)
- Frazer, T.K., S.K. Notestein, J.A. Hale, M.V. Hoyer, D.E. Canfield, Jr., S.B. Blich and C. Bedee. 2003. Water quality characteristics of the nearshore Gulf coast waters adjacent to Citrus, Hernando and Levy Counties – Project COAST 2002. Final Report. Southwest Florida Water Management District, Brooksville, Florida. 25 pp. (plus appendices, figures and tables)
- Hauxwell, J.A., T.K. Frazer and C.W. Osenberg. 2003. Effects of herbivores and competing primary producers on *Vallisneria americana* in Kings Bay: implications for restoration and management. Final Report. Southwest Florida Water Management District, Brooksville, Florida. 68 pp.
- Kurz, R.C., P. Sinphay, W. Hershfeld, T. Peery, D.C. Woithe, S.K. Notestein, T.K. Frazer, J.A. Hale and S.R. Keller. 2003. Mapping and monitoring submerged aquatic vegetation in Ichetucknee and Manatee Springs. Final Report. Suwannee River Water Management District, Live Oak, Florida. 50 pp. (plus 7 appendices and 12 large format color maps)
- Lindberg, W.J., K.P. Portier and T.K. Frazer. 2003. Ecological factors limiting density and regulating growth and condition for gag grouper: a definitive test for the role of shelter. Final Report. National Marine Fisheries Service, Southeast Regional Office – Fisheries Liaison Office, St. Petersburg, Florida. 41 pp.
- Frazer, T.K., S.K. Notestein, J.A. Hale, M.V. Hoyer, D.E. Canfield, Jr. and S.B. Blich. 2002. Water quality characteristics of the nearshore Gulf coast waters adjacent to Citrus, Hernando and Levy Counties – Project COAST 2001. Annual Report. Southwest Florida Water Management District, Brooksville, Florida. 183 pp.
- Frazer, T.K., E.J. Philips, S.K. Notestein and C. Jett. 2002. Nutrient limiting status of phytoplankton in five Gulf coast rivers and their associated estuaries. Final Report. Southwest Florida Water Management District, Brooksville, Florida. 21 pp.
- Frazer, T.K., S.K. Notestein, J.A. Hale, M.V. Hoyer and D.E. Canfield, Jr. 2002. Water quality characteristics of the nearshore Gulf coast waters adjacent to Pasco County – Project COAST 2001. Annual Report. Southwest Florida Water Management District, Brooksville, Florida. 13 pp. (plus appendices, figures and tables)

- Frazer, T.K. and J.A. Hale. 2001. Changes in the abundance and distribution of submersed aquatic vegetation along Florida's Springs Coast: 1992–1999. Final Report. Southwest Florida Water Management District, Brooksville, Florida. 10 pp. (plus 3 large format GIS products)
- Hauxwell, J.A., C.W. Osenberg and T.K. Frazer. 2001. Effect of competing primary producers and herbivory on the success of transplants of a native macrophyte (*Vallisneria americana* Michx) in a subtropical spring-fed estuary. Annual Report. Southwest Florida Water Management District, Brooksville, Florida. 34 pp.
- Frazer, T.K. and J.A. Hale. 2001. An atlas of submersed aquatic vegetation in Kings Bay (Citrus County, Florida). Final Report. Southwest Florida Water Management District, Brooksville, Florida. 4 pp. (plus appendices and 8 GIS maps)
- Frazer, T.K., S.K. Notestein, M.V. Hoyer, J.A. Hale and D.E. Canfield, Jr. 2001. Frequency and duration of pulsed salinity events in Kings Bay. Final Report. Southwest Florida Water Management District, Brooksville, Florida. 18 pp. (plus appendix)
- Frazer, T.K., S.K. Notestein, J.A. Hale, M.V. Hoyer and D.E. Canfield, Jr. 2001. Water quality characteristics of the nearshore Gulf coast waters adjacent to Pasco County – Project COAST 2000. Annual Report. Southwest Florida Water Management District, Brooksville, Florida. 16 pp. (plus appendices)
- Frazer, T.K., E.J. Philips, S.K. Notestein<sup>b</sup> and C. Jett. 2001. Nutrient limiting status of phytoplankton in five Gulf coast rivers and their associated estuaries. Annual Report. Southwest Florida Water Management District, Brooksville, Florida. 30 pp. (plus appendices)
- Hoyer, M.V., T.K. Frazer and D.E. Canfield. 2001. A vegetation evaluation of Crystal River/Kings Bay. Final Report. Southwest Florida Water Management District, Brooksville, Florida. 75 pp.
- Frazer, T.K., M.V. Hoyer, S.K. Notestein, J.A. Hale, D.E. Canfield, Jr. and S.B. Blich. 2001. Water quality characteristics of the nearshore Gulf coast waters adjacent to Citrus, Hernando and Levy counties. Final Report. Southwest Florida Water Management District, Brooksville, Florida. 197 pp.

Bachmann, R.A., T.K. Frazer, M.V. Hoyer and D.E. Canfield. 2001. Determination of areas in Crystal River/Kings Bay most susceptible to wave disturbance. Final Project Report. Southwest Florida Water Management District, Brooksville, Florida. 25 pp.

Southwest Florida Water Management District. 2001. Springs Coast comprehensive water management plan. Southwest Florida Water Management District, Brooksville, Florida. 118 pp. [Contributor]

Florida LAKEWATCH. 2001. Florida LAKEWATCH/Project COAST annual data summaries for the year 2000. Department of Fisheries and Aquatic Sciences, University of Florida/Institute of Food and Agricultural Sciences. Library, University of Florida, Gainesville, Florida. 1,074 pp. [Contributor]

Frazer, T.K., M.V. Hoyer, S.K. Notestein, D.E. Canfield, F.E. Vose, W.R. Leavens, S.B. Blich and J. Conti. 1998. Nitrogen, phosphorus and chlorophyll relations in selected rivers and nearshore coastal waters along the Big Bend region of Florida. Final Project Report. Suwannee River Water Management District (SRWMD Contract No. 96/97-156) and the Southwest Florida Water Management District (SWFWMD Contract No. 96/97/157R). 326 pp.

Tuss, C.J., J. Larson, T. Kisanuki, J. Pollos and T. Frazer. 1987. Klamath River fisheries investigation program 1986. Annual Report. United States Fish and Wildlife Service, Fisheries Assistance Office, Arcata, California. 93 pp.

***Peer-reviewed Extension Publications, EDIS***

Havens, K.E. and T.K. Frazer. 2012. Rethinking the role of nitrogen and phosphorus in the eutrophication of aquatic ecosystems. Gainesville: University of Florida Institute of Food and Agricultural Sciences. <http://edis.ifas.ufl.edu/sg118>

Obreza, T., M. Clark, B. Boman, T. Borisova, M. Cohen, M. Dukes, T. Frazer, E. Hanlon, K. Havens, C. Martinez, K. Migliaccio, S. Shukla and A. Wright. 2010. A guide to EPA's proposed numeric nutrient water quality criteria for Florida. <http://edis.ifas.ufl.edu/ss528>

Hauxwell, J., C. Jacoby, T.K. Frazer and J. Stevely. 2001. Nutrients and Florida's coastal waters: the links between people, increased nutrients and changes to coastal aquatic systems. Florida Sea Grant College Program Extension Bulletin 55. 10 pp. [http://edis.ifas.ufl.edu/document\\_sg061](http://edis.ifas.ufl.edu/document_sg061)

## Contracts and Grants

SJRWMD-UF Springs Protection Initiative – *Collaborative Research Initiative on Sustainability and Protection of Springs (CRISPS)*. 2014 – 2017, ~\$3,000,000, St. Johns River Water Management District - this effort involves multiple UF investigators and multiple projects; T. Frazer is the lead investigator for the biology group.

Peer review: proposed minimum flows and levels for lower Santa Fe and Ichetucknee rivers. 2013, \$45,000, Suwannee River Water Management District, W.D. Graham, M. Clark, M.J. Cohen, T.K. Frazer and J.B. Martin.

Marine and Coastal Sciences – Assistant Research Scientist Position. 2012 – 2016, \$250,000, Florida Aquarium, T.K. Frazer.

Marine and Coastal Sciences – Assistant Research Scientist Position. 2012 – 2016, \$125,000, Florida Fish and Wildlife Conservation Commission, T.K. Frazer.

Spatial patterns of coral-vermetid interactions: short-term effects and long-term consequences. September 2011 – August 2016, \$800,000, National Science Foundation, C.W. Osenberg and T.K. Frazer.

Interactions between algal mats and sediment biogeochemistry. January 2012 – April 2015, \$350,000, Southwest Florida Water Management District, T.K. Frazer and C.A. Jacoby.

Management and restoration of Kings Bay: control of undesirable submersed aquatic vegetation by macroinvertebrate grazers. January 2012 – June 2015, \$369,375, Southwest Florida Water Management District, T.K. Frazer and C.A. Jacoby.

Management and restoration of Kings Bay: assessing temporal changes in submersed aquatic vegetation. January 2012 – April 2014, \$179,480, Southwest Florida Water Management District, T.K. Frazer and C.A. Jacoby.

Project COAST. January 2012 – September 2015, \$300,000, Southwest Florida Water Management District, T.K. Frazer and C.A. Jacoby.

Defending reefs from invasive lionfish. October 2011-September 2012, \$20,000, Disney Worldwide Conservation Fund, T.K. Frazer and C.A. Jacoby.

A pre-spill assessment of seagrasses along Florida's Gulf coast, July 2010 – December 2010, \$9,997, Florida Sea Grant, T.K. Frazer and C.A. Jacoby.

Project COAST - Pasco County. June 2010 – July 2013, \$262,350, Southwest Florida Water Management District, T.K. Frazer and C.A. Jacoby.

Assessment of Florida's marine and freshwater hatchery programs. January 2010 – December 2014, \$827,500, Florida Fish and Wildlife Conservation Commission, T.K. Frazer and K. Lorenzen.

Coastal water quality assessment. January 2010 – August 2013, \$262,350, Southwest Florida Water Management District, T.K. Frazer and C.A. Jacoby.

Linking seagrass performance measures to water quality. January 2010 – December 2012, \$150,000, Florida Fish and Wildlife Conservation Commission, T.K. Frazer and C.A. Jacoby.

Quantifying pathways of nitrate removal in spring-fed rivers. January 2010 – December 2012, \$298,375, Southwest Florida Water Management District, T.K. Frazer, M.J. Cohen and C.A. Jacoby.

Compilation and synthesis of existing data in support of the determination of minimum flows for Crystal River. January 2010 – December 2010, \$63,200, Southwest Florida Water Management District, T.K. Frazer.

Nearshore ecology of Grand Canyon fish. April 2009 – December 2012, \$1,199,876, US Geological Survey, W.E. Pine, T.K. Frazer, M.S. Allen, K.E. Limburg and J. Korman

Fish-habitat relationships in Florida springs: do submersed plants and algae influence the population structure and production of small-bodied fishes? July 2008 – June 2011, \$134,073, Florida Fish and Wildlife Conservation Commission, W.E. Pine, T.K. Frazer and C.L. Staudhammer.

Determining coral reef impacts associated with boat anchoring and user activity in Broward and Palm Beach Counties. July 2008 – June 2011, \$105,623, Florida Fish and Wildlife Conservation Commission, D.C. Behringer, T.K. Frazer, R.A. Swett, R.L. Watkins, and M.J. Butler.

Nutrient loading of spring-fed coastal rivers: effects on habitat and faunal communities. July 2007 – June 2011, \$262,907, Florida Fish and Wildlife Conservation Commission, T.K. Frazer, M.V. Lauretta, W.E. Pine, G. L. Warren and E.J. Nagid.

Determining coral reef impacts associated with boat anchoring and user activity in Miami-Dade County. July 2008 – June 2010, \$81,275, Mote State Reef Plate Grant Program, D.C. Behringer, T.K. Frazer, R.A. Swett, M.J. Butler and R.L. Watkins.

Determining coral reef impacts associated with boat anchoring and user activity in Miami-Dade County. July 2008 – June 2010, \$92,000, Florida Department of Environmental Protection/ National Oceanographic and Atmospheric Administration; Florida Coral Reef Initiative, D.C. Behringer and T.K. Frazer.

Summary and synthesis of the available literature on the effects of nutrients on spring associated organisms and systems. January 2007 – June 2008, \$210,000, Florida Department of Environmental Protection, M. Brown, K. Reiss, M. Cohen, R. Reddy, P. Inglet, K. Inglet, T. Frazer, C. Jacoby, E. Philips and R. Knight.

Eutrophication issues in Florida. October 2007 – September 2008, \$17,008, Renewable Resources Extension Act, C.A. Jacoby and T.K. Frazer.

Project COAST. January 2006 – December 2008, \$523,000, Southwest Florida Water Management District, T.K. Frazer.

Kings Bay Vegetation Evaluation (phase 3). January 2006 – December 2007, \$92,000, Southwest Florida Water Management District, T.K. Frazer.

Kings Bay Vegetation Evaluation (phase 2). January 2005 – December 2006, \$50,000, Southwest Florida Water Management District, T.K. Frazer.

Habitat Selection and the Performance of Gag Grouper Across a Range of Hard Bottom Habitat in the Northeastern Gulf of Mexico. February 2004 – January 2007, \$175,059, MARFIN, W.J. Lindberg, D.M. Mason, D.J. Murie, T.K. Frazer and K.M. Portier.

Effects of large-scale harvesting on gizzard shad population dynamics and nutrient cycling in Florida lakes. 2004–2007. \$413,796, Florida Fish and Wildlife Conservation Commission, M.S. Allen and T.K. Frazer.

Kings Bay Vegetation Evaluation. January 2004 – December 2005, \$50,000, Southwest Florida Water Management District, T.K. Frazer.

Collaborative Research: Lagrangian studies of the transport, transformation and biological impact of nutrients and contaminant metals in a buoyant plume. July 2003 – June 2009, \$391,377, National Science Foundation, T.K. Frazer.

Project COAST. January 2003- December 2005, \$465,000, Southwest Florida Water Management District, T.K. Frazer.

Complex Pelagic Interactions in the Southern Ocean: Deciphering the Antarctic Paradox. July 2003 – September 2004, \$27,086, National Science Foundation, T.K. Frazer.

Coastal springs estuary assessment. January 2001- December 2002, \$60,000, Southwest Florida Water Management District, T.K. Frazer.

Coastal Eutrophication and the Productivity of Clams and Oysters. October 2000 – October 2004, \$450,000, USDA, E.J. Philips, T.K. Frazer, D.J. Murie and S.M. Baker.

Water Quality Assessment - Project COAST Extension. 2000-2003, \$160,000, Southwest Florida Water Management District, T.K. Frazer.

Factors influencing the dynamics of *Vallisneria americana* and their effects on the restoration of Kings Bay and other spring-fed systems. 2000-2002, \$162,000, Southwest Florida Water Management District, T.K. Frazer and C. Osenberg.

Coastal Springs Nitrate Assessment - Nutrient Assimilation Capacity of Five Gulf Coast Rivers (Project Extension). September 2000 – May 2001, \$60,000, Southwest Florida Water Management District, T.K. Frazer and D.E. Canfield.

Florida LAKEWATCH/Project COAST. July 2000-June 2001, \$400,000, State of Florida Legislative Appropriation, T.K. Frazer and D.E. Canfield.

Nutrient Limiting Status of Five Gulf Coast Estuaries. 2000-2001, \$90,000, Southwest Florida Water Management District, T.K. Frazer.

Coastal Springs/Kings Bay/Crystal River Water Quality, Vegetation, Sediment and Tidal Fluctuation Investigation. January 1999 – December 2001, \$280,000, Southwest Florida Water Management District, T.K. Frazer, D.E. Canfield, R. Bachmann and M.V. Hoyer.

Ecological Factors Limiting Density and regulating Growth and Condition for Gag Grouper: A Definitive Test for the Role of Shelter. October 1998 - September 2001, \$183,748, MARFIN, W.J. Lindberg, T.K. Frazer and K.M. Portier.

Nutrient Assimilation Capacity of Five Gulf Coast Rivers. February 1998 – June 2000, \$274,724, Southwest Florida Water Management District, T.K. Frazer and D.E. Canfield.

Regional Patterns of Habitat Use by Juvenile Blue Crabs: Assessing the Role of Alternative Habitat Types in Florida and North Carolina. January 1998 - December 1999, \$103,010, Florida Sea Grant, T.K. Frazer, M.H. Posey, T. Alphin and S.B. Blicht.

Regional Patterns of Habitat Use by Juvenile Blue Crabs: Assessing the Role of Alternative Habitat Types in Florida and North Carolina. January 1998 - December 1999, \$60,600 plus GSA, North Carolina Sea Grant, M.H. Posey, T.K. Frazer and T. Alphin.

Water Quality Assessment - Project COAST. 1997-98, \$40,000, Suwannee River Water Management District and Southwest Florida Water Management District, T.K. Frazer, D.E. Canfield and W.J. Lindberg.

## **Teaching**

Undergraduate, graduate, and post-doctoral training are critical to my professional goals. I have served on more than 90 Ph.D. and M.S. committees, involved numerous undergraduates in my research programs, and sponsored 2 international PhD-level students and 5 post-doctoral fellows.

## **Service**

I regularly review manuscripts for a broad suite of scientific journals and frequently serve as a panelist to review research proposals submitted to state and federal agencies. Other recent and/or current service related activities are as follows:

### ***University of Florida***

- Chair, UF Environmental Science General Education committee
- Past-Chair and current member, Faculty Advisory Committee, UF Water Institute
- Faculty Advisory Committee, UF Climate Institute



- Chair, Climate Science Faculty Committee
- Past-Chair, University of Florida Oil Spill Task Force
- Search and Screen Committee, Director - Whitney Marine Laboratory
- Melnick Fund Advisory Board
- QSE3 IGERT Advisory Council
- Hydrologic Sciences Academic Cluster
- Search and Screen Committee, Dean – UF College of Veterinary Medicine
- Founding Member –UF Marine Sciences Committee
- Chair, SNRE Coordinating Committee
- Center for the Environment Working Group
- Chair, Search and Screen Committee, Assistant Research Scientist in Marine Conservation, School of Forest Resources and Conservation
- Curriculum Committee, College of Agriculture and Life Sciences
- Search and Screen Committee, Assistant Professor in Coastal Biogeochemistry - Soil and Water Science Department
- Search and Screen Committee, Assistant Professor in Restoration Aquaculture – School of Forest Resources and Conservation
- Graduate Curriculum Committee, School of Forest Resources and Conservation
- Proposal Review Panel, UF Office of Research

### *External Activities*

- Oil Spill Research Strategy Review Panel, US EPA
- LOICZ working group on Global Environmental Change in the Coastal Zone
- Technical Advisory Committee on Marine Numeric Nutrient Criteria, Florida Department of Environmental Protection
- Executive Committee, National Association of University Fish and Wildlife Programs
- Peer-review panel for Dissolved Oxygen Criteria, Florida Department of Environmental Protection
- Advisory Council, Office of Water Policy and Ecosystem Restoration, Florida Department of Environmental Protection
- Science Advisory Board, Central Caribbean Marine Institute
- External Review Team, California Polytechnic University
- Oil Spill Academic Task Force, Florida State University System
- Kings Bay working Group, Southwest Florida Water Management District
- Florida Aquaculture Interagency Coordinating Council, Florida Department of Agriculture and Community Services
- External examiner, Imperial University, United Kingdom
- External examiner, Murdoch University, Australia