

Biographical information pertinent to the Regional Stakeholder Group

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I am a dedicated angler and biologist that understands the need for marine conservation in Southern California. I feel that I will offer an additional and unique perspective to the RSG. My interests in the RSG are to help build a healthier coastal ecosystem through the best possible placement of marine protected areas in Southern California. I feel that I will be helpful in the development of the process and in minimizing the negative economic and social impacts felt by the community. Principally, this would be accomplished through my existing education and outreach efforts, and strong ties to the recreational and commercial fishing sectors.

Background

I am a native Southern Californian that has participated in coastal activities (i.e., fishing, diving, boating) for all of my adolescent and adult life. I am from a Hispanic background and the vast majority of my free time as a youth was spent fishing from piers, jetties and aboard commercial passenger fishing vessels (CPFVs). I am familiar with the coastal shore-based as well as vessel-based fisheries conducted in CA state waters.

I graduated from California State University of Fullerton with a degree in Biology in 1997 and completed a Masters degree in 1999. My graduate studies focused primarily on marine fish species with an emphasis on fish physiology. I began the doctoral program at Scripps Institution of Oceanography in 2000 where I continued to study marine biology and fish physiology with an emphasis on commercially and recreationally important fish species. As a graduate student I worked on several six-pack charter vessels and obtained a United States Coast Guard approved 50-ton Master Captain's license. As a six-pack charter captain I have participated in both off-shore and inshore sport charter operations and I am familiar with the target species and bycatch of the inshore fisheries. I continue to have strong ties to the charter fleet based out of San Diego CA.

Upon obtaining my doctoral degree in 2004, I began work as a research scientist at the Pfleger Institute of Environmental Research (PIER) in Oceanside CA. Currently I am the laboratory director at PIER conducting research on several commercially and recreationally important fish species. Our current research ranges from movement studies to bioacoustic surveys of the coastal waters.

At PIER we have a strong dedication to public outreach and education. Our outreach efforts focus on informing commercial and recreational interests of our research programs and the need for marine conservation. I have forged a strong relationship with southern California recreational anglers, as I offer several informational seminars on marine conservation and

sustainable resource utilization (6 seminars in 2008). I co-publish a monthly article in a popular sport fishing magazine (*Pacific Coast Sport Fishing*) which discusses marine conservation issues and important biological information for the various target species of the recreational fishery.

Other pertinent information

- I am a private boat owner that engages in fishing activities throughout the year off the Southern California coast.
- I am bi-lingual (Spanish/English)

For educational and professional information please see attached CV

Chugey A. Sepulveda

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Education:

B.S. - California State University Fullerton, 1997 (Biology)
M.S. - California State University Fullerton, 1999 (Marine Biology)
U.S. Coast Guard 50 ton Master, San Diego maritime Institute, 2004
Ph.D. - University of California San Diego, Scripps Institution of Oceanography, 2005
(Marine Biology)

Positions

Research Assistant, California State university, Fullerton, 1997; Research assistant, university of California Irvine, 1999; Research Assistant, Scripps Institution of Oceanography, 2000; Graduate Research assistant Scripps Institution of oceanography, 2001-2005; Charter vessel captain, Dana Landing, San Diego California (2004-2008), Senior Research Scientist, Pfleger Institute of Environmental Research, 2005; Laboratory Director, Pfleger Institute of Environmental Research 2007 to present

Special Skills

Familiar with California nearshore commercial and recreational fisheries
Bilingual in Spanish
Familiar with coastal fishing operations along Baja California

Selected Publications

- Sepulveda, C.** and Dickson, K. A. (2000). Maximum sustainable speeds and cost of swimming in juvenile kawakawa tuna, *Euthynnus affinis*, and chub mackerel, *Scomber japonicus*. *J. Exp. Biol.* **203**, 3089-3101.
- Bernal, D. **Sepulveda, C.** and Graham, J. B. (2001). Water tunnel studies of heat balance in swimming mako sharks. *J. Exp. Biol.* **204**:4043-4054.
- Dickson, K. A., J. M. Donley, **C. Sepulveda**, and L. Bhoopat. (2002). Effects of temperature on sustained swimming performance and swimming kinematics of the chub mackerel *Scomber japonicus*. *Journal of Experimental Biology* **205**:969-980.
- Bernal, D., **Sepulveda, C.**, Mathieu-Costello, O. and Graham, J.B. (2003). Comparative studies of high performance swimming in sharks. I. Red muscle morphometrics, vascularization, and ultrastructure. *J. Exp. Biol.* **206**: 2831-2843.
- Dowis, H.J., **Sepulveda, C.A.**, Graham, J.B., and Dickson, K.A. (2003). Swimming performance studies on the eastern Pacific bonito (*Sarda chiliensis*), a close relative of the tunas (Family Scombridae). II. Kinematics. *J. Exp. Biol.* **206**: 2749-2758.
- Sepulveda, C.A.**, Dickson, K.A., and Graham, J.B., (2003). Swimming performance studies on the eastern Pacific bonito (*Sarda chiliensis*), a close relative of the tunas (Family Scombridae). I. Energetics. *J. Exp. Biol.* **206**: 2739-2748.
- Sepulveda C.A.**, S. Kohin, C. Chan, R. Vetter and J.B. Graham. (2004). Movement patterns, depth preferences, and stomach temperatures of free-swimming juvenile mako sharks, *Isurus oxyrinchus*, in the Southern California Bight. *Marine Biology*. **145**: 191-199.

Donley J.M., **C.A. Sepulveda**, P. Konstantinidis, S. Gemballa, and R.E. Shadwick. (2004). Convergent evolution in mechanical design of lamnid sharks and tunas. *Nature*. **429**: 61-65.

Bernal, D. and **Sepulveda, C. A.** (2005). Evidence for temperature elevation in the aerobic swimming musculature of the common thresher shark, *Alopias vulpinus*. *Copeia* **2005**. 163-168.

Donley J. M., **C.A Sepulveda**, S. Gemballa and R.E. (2005). Patterns of red muscle strain/activation and body kinematics during steady swimming in a lamnid shark, the shortfin mako (*Isurus oxyrinchus*). *J. Exp. Biol.* **208**, 2377-2387.

Sepulveda, C.A., N. Wegner, D. Bernal and J.B. Graham. (2005). The red muscle morphology of the thresher sharks (Alopiidae). *J. Exp. Biol.* **208**, 4255-426.

Gemballa, S., Konstantinidis, P., Donley, J. M., **Sepulveda, C. A.** and R. E. Shadwick. (in press). Evolution of high-performance swimming in sharks: Transformations of the musculotendinous system from subcarangiform to thunniform swimmers. *J. Morphol. Journal of Morphology* 267:477-493.

Duong, C. A., **Sepulveda, C. A.**, Graham, J. B. and Dickson, K. A. (accepted 4/1/05). Mitochondrial proton leak rates in the slow, oxidative myotomal muscle and liver of the endothermic shortfin mako shark (*Isurus oxyrinchus*) and the ectothermic blue shark (*Prionace glauca*) and leopard shark (*Triakis semifasciata*). *J. Exp. Biol.* 2006 209: 2678-2685.

Donley J. M., **Sepulveda, C. A.**, Shadwick, R. W and Syme, D.A. (2007). Contractile properties of the aerobic locomotor muscle in the leopard shark and shortfin mako shark. *J. Exp. Biol.* 210(7): 1194 – 1203

Sepulveda, Chugey A. K.A. Dickson, L.R. Frank and J.B., Graham (2007) Cranial endothermy and a putative brain heater in the most basal tuna species, *Allothunnus fallai*. *Journal of Fish Biology*, (2007) 70, 1720–1733.

Sepulveda, Chugey .A., J. B. Graham, and D. Bernal. 2007. Aerobic metabolic rates of swimming juvenile mako sharks, *Isurus oxyrinchus*. *Marine Biology*. 152 (5) 1087-1094.

Sepulveda, Chugey .A., K. A. Dickson, D. Bernal and J.B. Graham. (2008) Elevated red muscle temperatures in the most basal tuna member, *Allothunnus fallai*. *Journal of Fish Biology* 73: 1-9.

Synergistic activities (2008): Seminars are offered on marine and shark conservation in both scientific, non-scientific, college, high school, and public arenas. From 2006 to 2008 seminars were offered to the Dana Point Angling Club, Newport Angling Club, Oceanside Anglers, San Diego Marlin Club, Southwestern Yacht Club, MiraCosta College Natural Science Club, SeaCamp San Diego, Mariners Christian School, Pacific Coast Sportfishing Seminar series, NOAA Bycatch reduction seminar series, International Tuna Conference, CLIOTOP.

Recent collaborations (2007-2008): Diego Bernal (Univ. Mass. Dartmouth), Kathryn Dickson (California Univ. Fullerton, CSUF), Sven Gemballa (EBID program, Univ. of Tübingen, Germany); Jeanine M. Donley (MiraCosta college, California); Jeffrey B. graham, (Scripps Inst. Oceanography, SIO); Lawrence Frank (UCSD Magnetic Resonance Facility); Robert Shadwick, (Univ. of British Columbia); Suzan Kohin (National Marine Fisheries Service, NMFS) Christopher Lowe (CSU Long Beach); Craig Heberer (National Marine Fisheries Service).