

Appendix 7

NMFS Pacific Island Fisheries Science Center 2005 Publications

At the Pacific Island Fisheries Science Center (PIFSC), scientists assess and investigate the dynamics of various bottomfish species in the central Pacific Ocean as well as Pacific island resources such as tunas and marlins, lobster, deep sea shrimp, and other fishery resources associated with deep-sea seamounts and pelagic waters. This work contributes to basic fisheries science and supports the Western Pacific Regional Fishery Management Council. PIFSC scientists conduct research and recovery work on the threatened green sea turtle and the endangered Hawaiian monk seal and increasingly have focused on issues concerning fisher-protected species interactions. Staff scientists study the effects of environmental changes and human activities on fisheries and marine animal habitats and ecosystems and there is a new research emphasis oriented towards coral reef ecosystems.

This research collectively supports two primary goals of NMFS: to build sustainable fisheries and to recover protected species. These goals support the Magnuson-Stevens Fishery Conservation and Management Act, the Marine Mammal Protection Act, and the Endangered Species Act. Geographic areas of study are wide ranging, from the mid-Pacific pelagic oceanic environment, to the Northwestern Hawaiian Islands and the main Hawaiian Islands, to other central and western Pacific islands, including American Samoa, Guam, and the Northern Mariana Islands. Key programs include ecosystem and environment, stock assessment, fish biology and ecology, fishery management and performance, and protected species.

The following list of publications (both formal and informal) summarizes the basic science and statistics work pertaining to western Pacific fisheries and related issues conducted by PIFSC over the past year.

Publications

Boland, R. C., and F. A. Parrish.

2005. A description of fish assemblages in the Black Coral beds off Lahaina, Maui, Hawai'i. *Pac. Sci.* 59(3):411-420.

Brill, R. W., K. A. Bigelow, M. K. Musyl, K. A. Fritsches, E. J. Warrant.

2005. Bigeye tuna (*Thunnus obesus*) behavior and physiology and their relevance to stock assessments and fishery biology. *Col. Vol. Sci. Pap. ICCAT*, 57(2):142-161.

Burgess, G. H., L. R. Beerkircher, G. M. Cailliet, J. K. Carlson, E. Cortés, K. J. Goldman, R. D. Grubbs, J. A. Musick, M. K. Musyl, and C. A. Simpfendorfer.

2005. Is the collapse of shark populations in the Northwest Atlantic Ocean and Gulf of Mexico real? *Am. Fish. Soc.*, Vol 30 no 10 pgs 19-26.

- Burgess, G. H., L. R. Beerkircher, G. M. Cailliet, J. K. Carlson, E. Cortés, K. J. Goldman, R. D. Grubbs, J. A. Musick, M. K. Musyl, and C. A. Simpfendorfer.
2005. Reply to "Robust estimates of decline for pelagic shark populations in the Northwest Atlantic and Gulf of Mexico." Am. Fish. Soc. Vol 30 no 10 pgs 30-31.
- Cai, J., P. S. Leung, M. Pan, and S. Pooley.
2005. Economic linkage impacts of Hawaii's longline fishing regulations. Fish. Res. 74:232-242.
- Chaloupka, M., and G. Balazs.
2005. Modelling the effect of fibropapilloma disease on the somatic growth dynamics of Hawaiian green sea turtles. Mar. Biol. 147:1251-1260.
- DeMartini, E. E., A. M. Friedlander, and S. R. Holzwarth.
2005. Size at sex change in protogynous labroids, prey body size distributions, and apex predator densities at NW Hawaiian atolls. Mar. Ecol. Prog. Ser. 297:259-271.
- DeMartini, E. E., M. L. McCracken, R. B. Moffitt, and J. A. Wetherall.
2005. Relative pleopod length as an indicator of size at sexual maturity in slipper (*Scyllarides squammosus*) and spiny Hawaiian (*Panulirus marginatus*) lobsters. Fish. Bull. 103:23-33.
- Desantis, S., A. Corriero, F. Cirillo, M. Deflorio, R. Brill, M. Griffiths, A. L. Lopata, J. M. de la Serna, C. R. Bridges, D. E. Kime, and G. De Metrio.
2005. Immunohistochemical localization of CYP1A, vitellogenin and Zona radiata proteins in the liver of swordfish (*Xiphias gladius* L.) taken from the Mediterranean Sea, South Atlantic, South Western Indian and Central North Pacific Ocean. Aquat. Toxicol. 71:1-12.
- Fyler, C. A., T. W. Reeder, A. Berta, G. Antonelis, A. Aguilar, and E. Androukaki.
2005. Historical biogeography and phylogeny of monachine seals (Pinnipedia: Phocidae) based on mitochondrial and nuclear DNA data. J. Biogeogr. 32:1267-1279.
- Gilman, E., N. Brothers, and D. R. Kobayashi.
2005. Principles and approaches to abate seabird by-catch in longline fisheries. Fish. Fish. Ser. 6, 35-49.
- Humphreys, Jr., R. L., S. E. Campana, and E. E. DeMartini.
2005. Otolith elemental fingerprints of juvenile Pacific swordfish *Xiphias gladius*. J. Fish Biol. 66:1660-1670.
- Johanos, T. C., and J. D. Baker (Editors).
2005. The Hawaiian monk seal in the Northwestern Hawaiian Islands, 2002. U.S. Dep. Commer., NOAA Tech. Memo. NOAA-TM-NMFS-PIFSC-5, 154 p.

- Johnston, D. W., A. J. Westgate, and A. J. Read.
2005. Effects of fine-scale oceanographic features on the distribution and movements of harbour porpoises *Phocoena phocoena* in the Bay of Fundy. *Mar. Ecol. Prog. Ser.* 295:279-293.
- Johnston, D. W., A. S. Friedlaender, L. G. Torres, and D. M. Lavigne.
2005. Variation in sea ice cover on the east coast of Canada from 1969 to 2002: climate variability and implications for harp and hooded seals. *Clim. Res.* Vol. 29:209-222.
- Johnston, D. W., L. H. Thorne, and A. J. Read.
2005. Fin whales *Balaenoptera physalus* and minke whales *Balaenoptera acutorostrata* exploit a tidally driven island wake ecosystem in the Bay of Fundy. *Mar. Ecol. Prog. Ser.* 305:287-295.
- Kobayashi, D. R., and J. J. Polovina.
2005. Evaluation of time-area closures to reduce incidental sea turtle take in the Hawaii-based longline fishery: generalized additive model (GAM) development and retrospective examination. U.S. Dep. Commer., NOAA Tech. Memo. NOAA-TM-NMFS-PIFSC-4, 39 p.
- Kolinski, S. P., R. K. Hoeke, S. R. Holzwarth, and P.S. Vroom.
2005. Sea turtle abundance at isolated reefs of the Mariana Archipelago. *Micronesica* 37(2):287-296.
- McCracken, M. L.
2005. Modeling a very rare event to estimate sea turtle bycatch: lessons learned. U.S. Dep. Commer., NOAA Tech. Memo. NOAA-TM-NMFS-PIFSC-3, 25 p.
- Moteki, M., and B. C. Mundy.
2005. Notes on the morphology of the early stage of the rare bramid genus *Eumegistus*. *Ichthol. Res.* 52:401-405.
- Munch, S. B., M. L. Snover, G. M. Watters, and M. Mangel.
2005. A unified treatment of top-down and bottom-up control of reproduction in populations. *Ecology Letters* 8:691-695.
- Mundy, B.
2005. Checklist of the fishes of the Hawaiian Archipelago. *Bishop Museum Bulletin in Zoology* 6, Bishop Museum Press, Honolulu.
- Parker, D. M., W. J. Cooke, and G. H. Balazs.
2005. Diet of oceanic loggerhead sea turtles (*Caretta caretta*) in the central North Pacific. *Fish. Bull.* 103:142-152.

Parrish, F. A., G. J. Marshall, C. L. Littnan, M. Heithaus, S. Canja, B. Becker, R. Braun, and G. A. Antonelis.

2005. Foraging of juvenile monk seals at French Frigate Shoals, Hawaii. Mar. Mammal Sci. 21(1):93-107.

Polovina, J. J.

2005. Climate variation, regime shifts, and implications for sustainable fisheries. Bull. Mar. Sci. 76(2):233-244.

Polovina, J. J., and E. A. Howell.

2005. Ecosystem indicators derived from satellite remotely sensed oceanographic data for the North Pacific. ICES J. Mar. Sci. 62:319-327.

Schroeder, R. E., and J. D. Parrish.

2005. Resilience of predators to fishing pressure on coral patch reefs. J. Exp. Mar. Biol. Ecol. 321:93-107.

Snover, M. L., G. M. Watters, and M. Mangel.

2005. Interacting effects of behavior and oceanography on growth in salmonids with examples for coho salmon (*Oncorhynchus kisutch*). Can. J. Fish. Aquat. Sci. 62:1219-1230.

Southwood, A. L., R. D. Andrews, F. V. Paladino, and D. R. Jones.

2005. Effects of diving and swimming behavior on body temperatures of Pacific leatherback turtles in tropical seas. Physiological and Biochemical Zoology 78(2):285-297.

Swimmer, Y., L. McNaughton, C. Moyes, and R. Brill.

2005. Metabolic biochemistry of cardiac muscle in three tuna species (bigeye, *Thunnus obesus*; yellowfin, *T. albacares*; and skipjack, *Katsuwonus pelamis*) with divergent ambient temperature and oxygen tolerances. Fish. Physiol. Biochem. 30:27-35.

Swimmer, Y., R. Arauz, B. Higgins, L. McNaughton, M. McCracken, J. Ballesteros, and R. Brill.

2005. Food color and marine turtle feeding behavior: can blue bait reduce turtle bycatch in commercial fisheries? Mar. Ecol. Prog. Ser. 295:273-278.

Vroom, P. S.

2005. *Dasya atropurpurea* sp. nov. (Ceramiales, Rhodophyta), a deep-water species from the Hawaiian Archipelago. Phycologia, Volume 44(5), 572-580.

Vroom, P. S., K. N. Page, K. A. Peyton, and J. K. Kukea-Shultz.

2005. Spatial heterogeneity of benthic community assemblages with an emphasis on reef algae at French Frigate Shoals, Northwestern Hawai'ian Islands. Coral Reefs 24:574-581.

- Walsh, W. A., R. Y. Ito, K. E. Kawamoto, and M. McCracken.
 2005. Analysis of logbook accuracy for blue marlin (*Makaira nigricans*) in the Hawaii-based longline fishery with a generalized additive model and commercial sales data. *Fish. Res.* 75:175-192.
- Wilson, S. G., J. J. Polovina, B. S. Stewart, and M. G. Meekan.
 2005. Movements of whale sharks (*Rhincodon typus*) tagged at Ningaloo Reef, Western Australia. *Mar. Biol.*
- Work, T. M., G. H. Balazs, J. L. Schumacher, and Amarisa Marie.
 2005. Epizootiology of spirorchiid infection in green turtles (*Chelonia mydas*) in Hawaii. *J. Parasitol.* 91(4):871-876.
- Yanagimoto, T., and R. L. Humphreys, Jr.
 2005. Maturation and reproductive cycle of female armorhead *Pseudopentaceros wheeleri* from the southern Emperor-northern Hawaiian Ridge Seamounts. *Fish. Sci.* 71:1059-1068.

Administrative Reports

- Hamm, D. C., N. T. S. Chan, and C. J. Graham.
 2005. Fishery statistics of the western Pacific, volume 20. Pacific Islands Fish. Sci. Cent., Natl. Mar. Fish. Serv., NOAA, Honolulu, HI 96822-2396. Pacific Islands Fish. Sci. Cent. Admin. Rep. H-05-01, 196 p.

Abstracts

- Allen, S. D.
 2000. Vietnamese-American longliners and the swordfish fishery closure: comparing expected and actual impacts. [Abstr.] Applied Anthropology Conference, Vancouver, Canada, April 2006.
- Antonelis, G., A. Harting, B. Becker, S. Canja, D. Leurs, and A. Dietrich.
 2005. Galapagos sharks and Hawaiian monk seals: a conservation conundrum. [Abstr.] 16th Biennial Conference on the Biology of Marine Mammals, Manchester Grand Hyatt, San Diego, California, December 12-16, 2005.
- Arnold, G., R. Brill, M. Domeier, N. L. Lucas, M. Lutcavage, L. McNaughton, M. Musyl, Y. Swimmer, and S. Wilson.
 2005. PSAT performance evaluation and meta data analysis report. [Abstr.] 4th International Billfish Symposium, Avalon, Santa Catalina Island, California, October 31 to November 3, 2005.
- Arthur, K., C. Limpus, G. Balazs, J. Udy, and G. Shaw.
 2005. Ecotoxicology of the cyanobacterium *Lyngbya majuscula* and the potential

Exposure of green turtles *Chelonia mydas* to tumour promoting compounds.
[Abstr.] 26th Sea Turtle Symposium, Crete, Greece, April 2006.

Baker, J. D., J. J. Polovina, and E. A. Howell.

2005. Apparent link between survival of juvenile Hawaiian monk seals and ocean productivity. [Abstr.] Society for Marine Mammology Biennial Conference, San Diego, California, December 2005.

Baker, J. D., J. J. Polovina, and E. A. Howell.

2005. Apparent link between survival of juvenile Hawaiian monk seals and ocean productivity. [Abstr.] PICES/GLOBEC Symposium, Honolulu, Hawaii, April 2006.

Boggs, C.

2005. Longline fishing experiments on reducing sea turtle bycatch. [Abstr.] 2005 Tuna Conference, Lake Arrowhead, California, May 23-26, 2005.

Boland, R. C., and F. A. Parrish.

2005. A description of the fish assemblages in the black coral beds off Lahaina, Maui, Hawaii. [Abstr.] Precious Coral Symposium, Miami, Florida, November 2005.

Bowen, L., B. Aldridge, W. Van Bonn, R. DeLong, S. Melin, C. Gondinez, A. Zavala, K. Beckmen, T. Gelatt, L. Rea, K. Pitcher, F. Gulland, L. Lowenstine, G. Antonelis, M. Johnson, A. K. Miles, and J. L. Stott.

2005. MHC genes in marine mammal studies: is their study a worthwhile pursuit? [Abstr.] 16th Biennial Conference on the Biology of Marine Mammals, San Diego, California, December 12-16, 2005.

Brainard, R. E., M. Parke, K. B. Wong, R. Hoeke, J. M. Gove, D. Merritt, K. Hogrefe, and O. Dameron.

2005. Coral reef ecosystem integrated observing system (CREIOS) in the Pacific: infrastructure for monitoring, modeling, and management of U.S. coral reef resources. [Abstr.] AGU Ocean Sciences Meeting, Honolulu, Hawaii, February 20-24, 2006.

Chojnacki, J. D., J. J. Rooney, and J. S. Ferguson.

2005. The influence of wave energy on spatial variation in coral reef morphology: Midway Atoll. [Abstr.] AGU Ocean Sciences Meeting, Honolulu, Hawaii, February 20-24, 2006.

Dewar, H., E. Prince, M. Musyl, R. Brill, Jiangang, J. Seraphy, D. Snodgrass, R. M. Laurs, L. McNaughton.

2005. Behaviors and habitats of swordfish satellite tagged in the Atlantic and Pacific Oceans. [Abstr.] 4th International Billfish Symposium, Avalon, Santa Catalina Island, California, October 31-November 3, 2005.

- Forney, K. A., and D. A. Kobayashi.
2005. Mortality and injury of cetaceans in the Hawaii-based longline fishery, 1994-2004. [Abstr.] Biennial Conference on the Biology of Marine Mammals, San Diego, California, December 2005.
- Gilardi, K., R. Brainard, T. Cowan, M. Donohue, and J. June.
2005. Reducing marine debris: derelict fishing gear removal programs in Hawaii, Washington, and California. [Abstr.] Plastic Debris, Rivers to Sea Conference, Redondo Beach, California, September 7-9, 2005.
- Gove, J. M., R. E. Brainard, M. A. Merrifield, M. Dunlap, R. Schroeder, and S. Holzwarth.
2005. Upwelling variability near a remote equatorial Pacific Island and its Influences on coral reef ecosystem dynamics. [Abstr.] AGU Ocean Sciences Meeting, Honolulu, Hawaii, February 20-24, 2006.
- Hall, A., J. Asher, S. Balwani, and J. Stephenson.
2005. Northwestern Hawaiian Islands and main Hawaiian Islands marine debris removal program. [Abstr.] Conference on Sustainable Beaches, November 2005.
- Hoeke, R., R. Moffitt, and R. Brainard.
2005. The relationship of coral reef and open ocean water temperatures: estimation of coral reef flushing rates from bulk parameterization of heat flux. [Abstr.] AGU Ocean Sciences Meeting, Honolulu, Hawaii, February 20-24, 2006.
- Holst, S., J. Rooney, and J. Kenyon.
2005. Acropora corals at Ni'ihau: a new finding and its implications. [Abstr.] AGU Ocean Sciences Meeting, Honolulu, Hawaii, February 20-24, 2006.
- Humphreys, Jr., R. L., J. R. Hyde, E. Lynn, R. Vetter, S. Kraul, M. Musyl, and A. P. West.
2005. Observations of the occurrence of xiphiid and istiophorid eggs in waters off the Kona Coast of the Island of Hawaii. [Abstr.] 4th International Billfish Symposium, California, November 2005.
- Hyde, J. R., E. Lynn, R. Humphreys, Jr., M. Musyl, and A. West.
2005. Genetic identification of billfish eggs and larvae, benefits and recent findings. [Abstr.] 4th International Billfish Symposium, California, October 31-November 3, 2005.
- Johanos, T. C., A. L. Harting, and J. D. Baker.
2005. Fecundity patterns and reproductive senescence in the Hawaiian monk seal (*Monachus schauinslandi*). [Abstr.] Society for Marine Mammalogy Biennial Conference, San Diego, December 2005.

- Johnston, D. W., J. D. Baker, and C. L. Littnan.
2005. Modeling the effects of predicted sea level rise on the terrestrial habitat of Hawaiian monk seals (*Monachus schauinslandi*) and other wildlife in the Northwestern Hawaiian Islands. [Abstr.] Society for Marine Mammology Biennial Conference, San Diego, California, December 2005.
- Kenyon, J. C., E. Lundblad, M. Dunlap, and C. B. Wilkinson.
2005. Spatial distribution of the coral genus Acropora at French Frigate Shoals, Northwestern Hawaiian Islands: an integration of multiple data sources. [Abstr.] 13th Ocean Sciences Meeting, Honolulu, Hawaii, February, 2006.
- Lammers, M. O., T. A. Mooney, R. E. Brainard, W. W. L. Au.
2005. Passive acoustic monitoring of biological activity on coral reefs and nearby waters. [Abstr.] Meeting of the Acoustical Society of America, Minneapolis, Minnesota, October 2005.
- Levine, G., L. Kashinsky, C. Littnan, R. Braun, M. Haulena, H. Rhinehart.
2005. Esophageal foreign body removal via intragastric approach with pre-injury and post-release satellite tracking of a Hawaiian monk seal (*Monachus schauinslandi*) in the main Hawaiian Islands. [Abstr.] International Association for Aquatic Animal Medicine, Seward, Alaska, May 14-18, 2005.
- Lundblad, E., J. Chojnacki, J. Weiss, and J. Rooney.
2005. Habitat characterization using a bathymetric position index. [Abstr.] AGU Ocean Sciences Meeting, Honolulu, Hawaii, February 2006.
- Maunder, M. N., M. G. Hinton, K. A. Bigelow, and A. D. Langley.
2005. The statistical habitat-based model (staHBS) for standardizing catch and effort data to develop indices of relative abundance. [Abstr.] 4th International Billfish Symposium, Avalon, Santa Catalina Island, California, October 31 to November 3, 2005.
- Merritt, D., K. B. Wong, C. D. Kelley, M. Parke, and J. Laughlin.
2005. Development of autonomous underwater bait stations with stereo imaging for size, distance, and abundance estimates of living marine resources. [Abstr.] AGU Ocean Sciences Meeting, Honolulu, Hawaii, February 20-24, 2006.
- Miller, J., J. Weiss, E. Lundblad, S. Ferguson, J. Rooney, and J. Chojnacki.
2005. NOAA seafloor mapping and characterization in the Hawaiian Archipelago. [Abstr.] AGU Ocean Sciences Meeting, Honolulu, Hawaii, February 2006.
- Mundy, B. C., and F. A. Parrish.
2005. First submersible reconnaissance of the upper island slope fauna at the U.S. Line Islands. [Abstr.] AGU Ocean Sciences Meeting, Honolulu, Hawaii, February 20-24, 2006.

- Musyl, M., C. Moyes, J. Sibert, A. Nielsen, A. West, L. McNaughton, K. Bigelow, M. Laurs, and R. Brill.
2005. Movement of Pacific blue marlin recorded using PSATs. [Abstr.] 4th International Billfish Symposium, Avalon, Santa Catalina Island, California, October 31 to November 3, 2005.
- O'Malley, J. M., and G. T. DiNardo.
2005. Fishing Industry and National Marine Fisheries Service Cooperative Northwestern Hawaiian Islands Lobster Tagging Problem. [Abstr.] American Fisheries Society Annual Meeting, Anchorage, Alaska, September 13-16, 2005.
- O'Malley, J. M., and G. T. DiNardo.
2005. Pacific Islands Science Center Cooperative Northwestern Hawaiian Islands Lobster Tagging Program. [Abstr.] American Fisheries Society Meeting, 2005.
- Page, K. N., P. S. Vroom, and C. M. Smith.
2005. Stable isotopes of nitrogen in algae from an unimpacted and remote coral reef ecosystem. [Abstr.] AGU Ocean Sciences Meeting, Honolulu, Hawaii, February 20-24, 2006.
- Parrish, F. A.
2005. Habitat and fish assemblages of three deep-sea corals in Hawaii. [Abstr.] Third International Symposium on Deep-sea Corals, Miami, Florida, November 2005.
- Polovina, J. J., I. Uchida, G. Balazs, E. Howell, and D. Parker.
2005. A pelagic hotspot for Japanese juvenile loggerhead sea turtles: the Kuroshio Extension Current Bifurcation Region. [Abstr.] Proceedings of the Third International Fishers Forum, Yokohama, Japan, July 27-28, 2005.
- Rooney, J., M. Parke, E. Lundblad, J. Chojnacki, S. Holst, J. Miller, and J. Laughlin.
2005. Benthic habitat mapping to meet management needs: a case study from Saipan, Commonwealth of the Northern Mariana Islands. [Abstr.] AGU Ocean Sciences Meeting, Honolulu, Hawaii, February 20-24, 2006.
- Schroeder, R. E., A. L. Green, E. E. DeMartini, and J. C. Kenyon.
2005. Long-term effects of a ship-grounding on coral reef fish assemblages at Rose Atoll, American Samoa. [Abstr.] AGU Ocean Sciences Meeting, Honolulu, Hawaii, February 20-24, 2006.
- Snover, M. L., and S. S. Heppell.
2005. Application of a population viability assessment model, Dennis-Holmes, to Marine Turtle Conservation. [Abstr.] 26th Annual Symposium on Sea Turtle Conservation and Biology, Crete, Greece, April 2006.

- Snover, M. L., L. Avens, and A. A. Hohn.
2005. Estimating growth rates of loggerhead sea turtles (*Caretta caretta*) using skeletal growth marks. [Abstr.] 26th Annual Symposium on Sea Turtle Conservation and Biology, Crete, Greece, April 2006.
- Stewart, B. S., and C. L. Littnan.
2005. Foraging habitats and behavior and population vitality of Hawaiian monk seals. [Abstr.] 16th Biennial Conference on the Biology of Marine Mammals, San Diego, California, December 12-16, 2005.
- Vroom, P. S., R. E. Brainard, R. E. Schroeder, and J. C. Kenyon.
2005. Comparisons of biodiversity and abundance of fish, corals, macroinvertebrates, and algae in coral reef ecosystems of U.S.-affiliated archipelagoes in the Pacific. [Abstr.] AGU Ocean Sciences Meeting, Honolulu, Hawaii, February 20-24, 2006.
- Walsh, W. A.
2005. Where the billfishes were (and were not). [Abstr.] 56th Tuna Conference, Lake Arrowhead, California, May 23-25, 2005.
- Walsh, W. A., K. A. Bigelow, and E. A. Howell.
2005. Effects of environmental, spatial, and temporal factors on blue marlin (*Makaira nigricans*) catches by the Hawaii-based longline fishery as revealed by generalized additive models and correlation analyses. [Abstr.] 4th International Billfish Symposium, Avalon, Santa Catalina Island, California, October 31-November 3, 2005.
- Weiss, J., J. Miller, E. Lundblad, S. Vogt, R. O'Connor.
2005. Seafloor characterization using high resolution multibeam bathymetry and backscatter at French Frigate Shoals, Northwestern Hawaiian Islands. [Abstr.] AGU Ocean Sciences Meeting, Honolulu, Hawaii, February 2006.