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Alaska's Spirit Speaks: Sound & Science

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KATHY TURCO

• Born •

9 November 1960

• Education •

1991 - M.S. Marine Biology; University of Alaska
1982 - B.S. Zoology (major), Oceanography (minor); University of Montana
with three semesters at Humboldt State University and one term at University of Rhode Island

Scientific Publications

- Jodice, P.G.R., Roby, D.D., Turco K., Suryan, R.M., Irons D.B., Piatt J.R., Shultz M.T., Roseneau D.G., Kettle A.B., and Anthony J.A. **In Press**. Assessing the nutritional stress hypothesis: The relative influence of diet quantity and quality on seabird productivity. *Marine Ecology Progress Series*.
- Jodice, P.G.R., Roby, D.D., Suryan, R.M., Irons, D.B., Turco, K.R., Brown, E. D., Thedinga, J.F., and Visser, G.H. **2006**. Increased energy expenditure by a seabird in response to higher food abundance. *Marine Ecology Progress Series* 306: 283-293.
- Jodice, P.G.R., Roby, D.D., Suryan, R.M., Irons, D.B., Kaufmann, A.M., Turco, K.R., and Visser, G.H. **2003**. Variation in energy expenditure among black-legged kittiwakes: Effects of activity-specific metabolic rates and activity budgets. *Physiological and Biochemical Zoology* 76:375-388.
- Roby, D.D., Jodice, P.G.R., and Turco, K.R. **2000**. Diet composition, reproductive energetics, and productivity of seabirds damaged by the *Exxon Valdez* oil spill. *Exxon Valdez Oil Spill Restoration Project Final Report (Restoration Project 00163G)*. Exxon Valdez Oil Spill Trustee Council, Anchorage, Alaska. 48 pp.
- Roby, D.D., Turco, K.R. and Anthony, J.A. **1999**. Diet composition, reproduction energetics, and productivity of seabirds damaged by the *Exxon Valdez* oil spill. 1998 Annual Project Report (Restoration Project 98163G), Exxon Valdez Oil Spill Trustee Council, Anchorage, Alaska. 37 pp.
- Anthony, J. A, Roby, D.D, and Turco, K.R. **1998**. Lipid content and energy density of forage fishes from the northern Gulf of Alaska. *Journal of Experimental Marine Biology and Ecology* 248: 53-78.
- Roby, D.D., Turco, K.R. and Anthony, J.A. **1998**. Diet composition, reproduction energetics, and productivity of seabirds damaged by the *Exxon Valdez* oil spill. 1997. Annual Project Report (Restoration Project 97163G), Exxon Valdez Oil Spill Trustee Council, Anchorage, Alaska. 32 pp.
- Roby, D.D., and Turco, K.R. **1997**. Diet composition, reproduction energetics, and productivity of seabirds damaged by the *Exxon Valdez* oil spill. 1996. Annual Project Report (Restoration Project 96163G), Exxon Valdez Oil Spill Trustee Council, Anchorage, Alaska. 30 pp.
- Roby, D.D., Ryder, J.L., Blundell, G., Turco, K.R., and Prichard, A. **1996**. Diet composition, reproduction energetics, and productivity of seabirds damaged by the *Exxon Valdez* oil spill. 1995 Annual Project Report (Restoration Project 95163G), Exxon Valdez Oil Spill Trustee Council, Anchorage, Alaska. 29 pp.
- Turco, K. R. **1991**. Microcirculation in relation to the temperature and color of the skin of Pacific Walrus, *Odebenus rosmarus divergens*. Unpublished Master of Science thesis, University of Alaska Fairbanks, Fairbanks, Alaska.

Springer, A. M., McRoy C .P. and Turco. K. R. **1989**. The paradox of pelagic food webs in the northern Bering Sea; II Zooplankton communities. *Continental Shelf Research* 9: 359-386.

Turco, K. R. **1987**. Progress report of Pacific Walrus harvest and welfare study at Little Diomedede Island, Alaska. U.S. Fish and Wildlife Service, Marine Mammal Division, Anchorage, Alaska.

Turco, K. R. **1984**. Kenai Fjords National Park field season annual report National Park Service, Anchorage, Alaska.

Morsell, J., Houghton, J., and Turco, K. R. **1983**. Knik Arm crossing; Marine biology studies. Dames and Moore Memorandum No. 15 to U.S. Department of Transportation and Alaska Department of Transportation, Anchorage, Alaska.

Professional Experience in Biological Sciences

- **Spring 1998 to Present: Research Technician** for Alaska's Spirit Speaks: Sound & Science. Laboratory analysis and reporting of seabird diet composition, including identification of invertebrates, fish, and fish otoliths under contract for the University of Alaska Fairbanks, Oregon State University, U.S. Fish and Wildlife Service, and U.S. Geological Survey.
- **Spring 2001: Research Assistant** for North Slope Borough Bowhead Whale Census in Barrow, Alaska. Responsible for organization, backup, and analysis of all acoustic data generated by a 5-hydrophone array system to record whales during spring migration to the Arctic Ocean.
- **Summer 1999 & 2000: Research Assistant** for Pigeon Guillemot Restoration Research at the Alaska Sealife Center, Seward, Alaska. Field data collection, including collecting and transporting eggs for captive-rearing studies.
- **Summer 1997, 1998, & 1999: Research Assistant** for Component G of APEX (Diet composition, reproductive energetics, and productivity of seabirds damaged by the *Exxon Valdez* oil spill) in Prince William Sound, Alaska. Field data collection at 3-4 remote field camps, doubly labeled water, radio-telemetry and some field diet analysis.
- **Spring 1992 to Spring 1998: Research Assistant** for APEX Project at the University of Alaska Fairbanks. Laboratory analysis and reporting of seabird diet composition, including identification of invertebrates, fish, and fish otoliths.
- **Fall 1991 to Spring 1992: Research Assistant** for final phase of ISHTAR Project at University of Alaska Fairbanks. Study of the physical, chemical, and biological oceanography of the Bering and Chukchi seas. Laboratory data management for final report, assistance in manuscript preparation.
- **Fall 1988 to Fall 1991: Part-time Research Assistant** for ISHTAR Project at the University of Alaska Fairbanks. At-sea collection of zooplankton and analysis of samples.
- **Fall 1985 to Spring 1991: Graduate Research Assistant** for University of Alaska Fairbanks. Study of Pacific walrus physiology and thermoregulation. Thesis research involved development of a histological method for studying blood vessel density in the skin, measuring skin temperatures of wild walruses using an infrared thermogun, and documenting walrus skin color using photography and light transmission densitometry.
- **Spring 1990: Biological Field Technician** for EnviroPlus Consulting, Mojave Desert, California. Field mapping and assessment of desert tortoise habitat.
- **Winter 1989 & 1990: Research Assistant** for University of Alaska Fairbanks on NSF-funded research project in Antarctica. Tagging Weddell seals with satellite transmitters for population study on the Ross Ice Shelf & general field logistics.
- **Spring & Fall 1989: Field Technician** for Alaska Biological Research, Fairbanks, Alaska. Monitoring migratory birds in eastern Alaska and computer data entry.

- **Summer 1985 to Fall 1988: Part-time Research Assistant** for ISHTAR Project at University of Alaska Fairbanks
Studies of primary productivity and zooplankton ecology in the Bering and Chukchi seas; supervised technician staff in sample collection & data analysis.
- **Spring 1986: Walrus Harvest Monitor** on Little Diomed Island, Alaska for the Alaska Department of Fish and Game.
Collect biological samples from harvested walruses (blubber and organs). Collect skin for thesis research.
- **Spring 1985: Field Crew Member, Bowhead Whale Migration Census** for the North Slope Borough, Barrow, Alaska.
Visual and acoustic monitoring of bowhead whales from remote field camps on the ice edge.
- **Fall 1984 to Spring 1985: Data Management Technician** for Peterson and Associates, Fairbanks, Alaska. Compiled hydrology data for analysis and reports.
- **Summer 1984: Back-country Marine Biology Technician** for Kenai Fjords National Park. Survey of plants and marine and terrestrial wildlife, recorded habitat conditions, resource impacts, monitored glacial activity, maintained camps, and assisted visitors.
- **Spring 1983 to Summer 1984: Biological Technician** for Dames and Moore, Anchorage, Alaska. Field data collection for projects in fisheries, hydrology, and wildlife; laboratory analysis and database management.
- **Summer 1981 and 1982: Field Research Assistant** for American Museum of Natural History Research Station, Portal, Arizona
Projects varied in scope; ecology, physiology, animal behavior and population dynamics, as well as in species; army ants, wasps, spiders, grasshoppers, lizards, toads, kangaroo rats, grizzly bears, orcas, seals, Mexican jays, kingbirds, juncos, eagles, godwits, hummingbirds, grasses, buffalo gourd, cacti and intertidal algae.

Research Grants and Awards

Special President's Fund, UAF Foundation, 1987.
 Lincoln Memorial Fund, American Museum of Natural History, 1986 and 1987.
 Alaska Department of Fish and Game, 1987.
 Sigma Xi Grants-in-Aid, University of Alaska Fairbanks Chapter, 1986.
 U.S. Fish and Wildlife Service, Alaska Regional Office, 1986.