



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Northwest Fisheries Science Center  
2725 Montlake Boulevard East  
Seattle, WA 98112-2097

March 8, 2002

Dr. Hans Radtke, Chair  
Pacific Fisheries Management Council  
7700 NE Ambassador Avenue, Suite 200  
Portland, Oregon 97220

Dear Dr. Radtke:

I would like to request that a position be made available for a scientist from the Fisheries Monitoring and Analysis Division (FRAM), Northwest Fisheries Science Center (NWFSC) to participate on the Pacific Fisheries Management Council Habitat Subgroup. As you know the NWFSC is tasked with coordinating the NMFS West Coast groundfish research. Participation by a scientist from the FRAM division of the NWFSC on this subcommittee would help the Center achieve its goals of both providing the best scientific advice to the Council and coordinating our habitat research with the Council's research priorities.

If the creation of this new position on the subgroup meets with the Council's approval, we recommend that the first participant from the Center be Dr. Waldo Wakefield. He is the team lead within the FRAM division for habitat research and is a respected international expert in the field of fisheries and ecosystems research. Dr. Wakefield's curriculum vitae is attached for your review.

If you have any further questions regarding this request please contact me or Dr. Elizabeth Clarke, Division Director of the FRAM Division at the NWFSC.

Sincerely,

A handwritten signature in black ink, appearing to read "Usha Varanasi".

Usha Varanasi, Ph.D.  
Science and Research Director

/c



## CURRICULUM VITAE

W. WALDO WAKEFIELD

NOAA National Marine Fisheries Service  
Northwest Fisheries Science Center  
2030 So. Marine Science Center Drive  
Newport, Oregon 97365

CITIZENSHIP: USA

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### EDUCATION

Ph.D.: Oceanography, 1990, Scripps Institution of Oceanography

M.S.: Oceanography, 1984, Oregon State University

B.S.: Biology, 1973, Pennsylvania State University

### POSITIONS HELD

#### *NOAA / NMFS Northwest Fisheries Science Center*

1999-present: Fisheries Research Biologist

#### *Rutgers University Institute of Marine and Coastal Sciences*

1998-1999: Assistant Research Professor

1993-1998: Assistant Research Professor and Science Director for Mid-Atlantic Bight National Undersea Research Center

#### *University of Alaska Fairbanks*

1991-93: Affiliate Assistant Professor and Science Director for West Coast National Undersea Research Center

#### *NOAA/NMFS Southwest Fisheries Science Center*

1990-91: National Research Council, Research Associateship post doc

#### *Scripps Institution of Oceanography*

1982-90: Graduate Research Assistant

#### *Oregon State University, School of Oceanography*

1981-82: Research Assistant - technician / 1978-81: Graduate Research Assistant / 1977-78: Teaching Assistant

#### *Academy of Natural Sciences of Philadelphia, Division of Limnology and Ecology*

1975-77: Biologist/Principal Investigator, Benedict Estuarine Research Laboratory / 1973-75: Research Assistant, main museum, Philadelphia

### AWARDS

Scripps Institution of Oceanography, Institute of Marine Resources Fellow, 1982-1983

Fager Memorial Award, Scripps Institution of Oceanography, 1985

National Research Council, Research Associateship, 1990-1991

Rutgers University, Faculty Academic Service Increment Program Award for 1994, 1997, 1998

Northwest Fisheries Science Center Certificate of Recognition for Heceta Bank Research Project 1999/2000

Northwest Fisheries Science Center Certificate of Recognition for Ocean Exploration Project off Oregon, 2001

### RECENT EXPERIENCE/RESPONSIBILITIES

1999-present: Research Fisheries Biologist at the Northwest Fisheries Science Center, Newport Station. responsible for developing field research program for west coast groundfish including coast wide time series. In addition, developing fisheries habitat studies program at the NWFS/C, and continuing to pursue research and teaching interests in oceanography, fisheries, and the ecology of deep-sea fishes.

1993-1999: Science Director for the Mid-Atlantic Bight National Undersea Research Center (NURC), responsible for developing and operating (with the Center Director) NOAA's National Undersea Research Program in the Mid-Atlantic Bight of North America. The Mid-Atlantic Bight Center is one of six regional centers which promote in situ research and technological development in marine, estuarine and limnological studies. Assistant Research Professor in the Department of Marine and Coastal Sciences with an appointment in the Graduate Program in Oceanography - in addition to administrative duties, continued to pursue research and teaching interests.

### SEA EXPERIENCE since 1993 (at sea experience dates back to 1974)

1993: R/V SEA DIVER / CLELIA - Developmental project to evaluate the use of shallow water submersible CLELIA to conduct research at sites along New Jersey Shelf.

R/V CALETA - Periodic day trips to conduct hydrographic and water chemistry transects off Tuckerton, NJ

1994: R/V MEDEIA / M/V CAVALIAR / DELTA - Sidescan sonar and manned submersible study of demersal shelf rockfish habitats in SE Alaska

M/V ATLANTIC SURVEYOR / DELTA - In situ studies of habitat associations of juvenile fish on the New Jersey continental shelf

- R/V MILLER FREEMAN, MF-94-09 - Gear research and slope groundfish stock assessment cruise off Oregon - used newly development towed camera sled (by WWW) to assess groundfish abundance and habitat.
- 1995: R/V CALETA - Periodic day trips to conduct hydrographic and water chemistry transects off Tuckerton, NJ  
R/V MEDEIA / DELTA - Sidescan sonar and manned submersible study of demersal shelf rockfish habitats in SE Alaska
- 1996: R/V CALETA - Periodic day trips to conduct hydrographic and water chemistry transects off Tuckerton, NJ  
R/V CALETA - Periodic day trips to conduct hydrographic and water chemistry transects off Tuckerton, NJ  
R/V CREED - Multibeam sonar survey of areas of the inner and outer continental shelf off New Jersey for ONR Strataform Project  
R/V MEDEIA - Sidescan sonar survey of fishing grounds off SE Alaska
- 1997: M/V CAVALIAR / DELTA submersible, manned-submersible study of demersal shelf rockfish habitats and rockfish stock assessment  
R/V DELAWARE II, in situ observations of surfclam and ocean quahog dredging operations as part of NOAA / NMFS clam stock assessment efforts
- 1998: R/V MEDEIA - Sidescan sonar survey of fishing grounds off SE Alaska
- 1999: R/V DISCOVERY BAY - Sustainable Seas Expedition in Olympic Coast National Marine Sanctuary, R/V MEDEIA / DELTA - manned submersible study of demersal shelf rockfish habitats in SE Alaska, F/V's MISS LEONA - West Coast groundfish time-series cruise
- 2000: R/V RONALD H. BROWN w/ DELTA submersible and ROPOS ROV- NURP funded project to study habitats of Heceta Bank, OR, F/V Coast Pride - West Coast groundfish time series-cruise
- 2001: R/V RONALD H. BROWN w/ ROPOS ROV- NURP funded project to study habitats of Heceta Bank, OR, F/V Sea Eagle - West Coast groundfish research  
M/V CASITAS w/ UNCW ROV system and SAIC laser line scanner - evaluation of application of laser line scan system for habitat and groundfish studies

## PUBLICATIONS

- Shenker, J. M., D. J. Hepner, P.E. Frere, L. E. Currence, and **W.W. Wakefield**. 1983. Upriver migration and abundance of naked goby (*Gobiosoma boscii*) larvae in the Patuxent River, Maryland. *Estuaries* **6**: 36-42.
- Wakefield, W.W.** 1984. Feeding relationships within an assemblage of benthic fishes on the Oregon continental shelf. Masters Thesis, Oregon State University.
- Wakefield, W.W.** and A. Genin. 1987. The use of a Canadian (perspective) grid in deep-sea photography. *Deep-Sea Res.* **34**: 469-478.
- Kaufmann, R.S., **W.W. Wakefield**, and A. Genin. 1989. Distribution of epibenthic megafauna and lebensspuren on two Central North Pacific seamounts. *Deep-Sea Res.* **36**: 1863-1896.
- Reimers, C.E., and **W.W. Wakefield**. 1989. Flocculation of siliceous detritus on the sea floor of a deep Pacific seamount. *Deep-Sea Res.* **36**: 841-1862.
- W.W. Wakefield**. 1990. Patterns in the distribution of demersal fishes on the upper-continental slope off central California with studies on the role of ontogenetic vertical migration in particle flux. Ph.D. Thesis, Scripps Institution of Oceanography.
- W.W. Wakefield**, and K.L. Smith, Jr. 1990. Ontogenetic vertical migration in *Sebastolobus altivelis* as a mechanism for transport of particulate organic matter at continental slope depths. *Limnol. Oceanog.* **35**: 1314-1328.
- Smith, K.L. Jr., R. S. Kaufmann, and **W. W. Wakefield**. 1993. Mobile megafauna activity monitored with a time-lapse camera in the abyssal North Pacific. *Deep-Sea Res.* **40**(11-12): 2307-2324.
- Adams, P.B., J.L. Butler, C.H. Baxter, T. E. Laidig, K. A. Dahlin, and **W. W. Wakefield** (1995) Population estimates of Pacific Coast groundfishes from video transects and swept-area trawls. *Fish. Bull.* **93**(3):446-455.
- O'Connell, V.M., **W.W. Wakefield**, and H.G. Greene. 1998. The use of a no-take marine reserve in the Eastern Gulf of Alaska to protect "essential fish habitat", pp 127-134, *In* M.M. Yoklavich (ed.), *Marine harvest refugia for the west coast rockfish: A workshop*. NOAA Technical Memorandum NMFS-SWFSC-255. 159 p.
- Greene, H.G. M.M. Yoklavich, R.M. Starr. V.M. O'Connell, **W.W. Wakefield**, D.E. Sullivan, J.E. McCrea, and G.M. Cailliet. 1999. A classification scheme for deep seafloor habitats. *Oceanologica Acta*, **22**(6):663-678.

Cailliet, G.M., A.H. Andrews, **W.W. Wakefield**, G. Moreno, and K.L. Rhodes. 1999. A comparison of the fish fauna from beam trawl samples, camera sled photographs and submersible observations in benthic deep-sea habitats off central California. *Oceanologica Acta*, **22**(6):579-592.

J. R. Weinberg, P. J. Rago, **W.W. Wakefield** and C. Keith. 2002. Estimation of tow distance and spatial heterogeneity using data from inclinometer sensors: an example using a clam survey dredge. *Fisheries Research*, **55** (1-3) (2002) pp. 49-61.

Greene, H.G., Starr, V.M. O'Connell, **W.W. Wakefield**, and C. Brylinsky. Submitted. The offshore Edgcumbe Lava Field, Southeast Alaska: geological and habitat characterization of a commercial fishing ground. *Marine Geology*.

**Other Recent Publications / Reports (1994 to present):**

O'Connell, V.M. and W.W. Wakefield. 1994. Applications of Side-Scan Sonar and Laser-Line Systems in Fisheries Research. Special publication no. 9.

Starr, R. and W.W. Wakefield. 1996. GIS, GPS, and underwater positioning: a workshop on assessing spatial characteristics of marine habitats. A special session and workshop at the Ninth Western Groundfish Conference, Newport, Oregon, January 23-25, 1996.

**Wakefield, W.W.**, V. M. O'Connell, H.G. Greene, D.W. Carlile, and J.E. McRea. 1998. The role of sidescan sonar in seafloor classification with a direct application to commercial fisheries management. International Council for the Exploration of the Sea (ICES) CM1998/O:36.

O'Connell, V.M., D.W. Carlile, and **W.W. Wakefield**. 1998. Using line transects and habitat-based assessment techniques to estimate the density of yelloweye rockfish (Scorpaenidae: *Sebastes*) in the eastern Gulf of Alaska. International Council for the Exploration of the Sea (ICES) CM1998/O:56.

Greene, H.G., M.M. Yoklavich, V.M. O'Connell, R.M. Starr, **W.W. Wakefield**, C.K. Brylinski, J.J. Bizzarro, and G.M. Cailliet. 2000. Mapping and classification of deep seafloor habitats. International Council for the Exploration of the Sea (ICES) CM2000/T:08

**Recent Collaborators:** K.W. Able, A.H. Andrews, C. Brylinsky, G.M. Cailliet, D.C. Carlile, J.E. Hughes Clarke, R. Embley, J.F. Grassle, H.G. Greene, C.B. Grimes, M. Hixon, R.S. Kaufmann, R.R. Lauth, L.A. Mayer, G. Moreno, V.M. O'Connell, K.L. Rhodes, K.L. Smith, Jr., B. Tissot, D. Wilson, M.M. Yoklavich

**Recent Graduate Student Committees:** L.A. Ferry, S.M. Hagan, D. Haroski, B. Holladay, G. Levai, E. Martino, N. Nasby, S.N. O'Brien, T.M. Shank, C. Whitmire