

Agenda Item: 5c
Meeting Date: October 12, 2006

CALIFORNIA BAY-DELTA AUTHORITY

CONSIDERATION OF A RESOLUTION TO RECOMMEND THE APPOINTMENT OF DR. MICHAEL HEALEY AS LEAD SCIENTIST FOR THE CALFED BAY-DELTA PROGRAM

Summary: This resolution recommends Dr. Michael Healey as Lead Scientist for the CALFED Bay-Delta Program to the Resources Secretary. The staff report below summarizes the circumstances that led to bringing a nomination forward to the California Bay-Delta Authority, and the qualifications of the nominee.

Recommended Action: The California Bay-Delta Authority adopt the attached Resolution 06-10-05.

Background

The CALFED Programmatic Record of Decision (ROD) calls for a Lead Scientist to develop, direct, and implement the programmatic goals of the CALFED Science Program and develop priorities with CALFED program managers and implementing agencies pursuant to these goals. The 2003 California Bay-Delta Authority Act (Act) expressly required the Authority, with the advice of the Director, to appoint a Lead Scientist, who reported to the Authority. In 2006, as part of the Legislature's reorganization of CALFED, (Assembly Bill 1803, Ch. 77, Stats 2006) the Secretary for Resources became responsible for the appointment of the Lead Scientist, upon the recommendation of the Authority and the Director of the Authority.

In August 2005, the CALFED Science Program began a nationwide recruitment for a new Lead Scientist following the announced retirement of Dr. Johnnie Moore effective June 30, 2006. Dr. Moore convened a Lead Scientist Search Committee that included members of the Independent Science Board (ISB), the Director, representatives from Federal and State agencies and stakeholder groups.

A nationwide recruitment was run in October and November of 2005. Following that process, the ISB identified Dr. Michael Healey for the position. The Selection Committee supports this nomination and recommended to Director Grindstaff that Dr. Healey be appointed as Lead Scientist.

Nominee: Dr. Michael Healey received Bachelor of Science and Master of Science degrees in Zoology from the University of British Columbia and a doctorate in Natural

History from the University of Aberdeen (Scotland). He began his professional scientific career in 1970 with the Fisheries Research Board of Canada (subsequently the Department of Fisheries and Oceans) at the newly established Freshwater Institute in Winnipeg, Manitoba. At the Freshwater Institute he conducted groundbreaking work on freshwater fisheries in northern Canada, developing criteria for the assessment of whitefish and lake trout fisheries that are still in use.

In 1974 he transferred to the Pacific Biological Station at Nanaimo, British Columbia, where he led a number of research teams investigating the ecology and productivity of Pacific salmon. The research programs that he headed addressed the ecology of all five North American species of salmon but Dr. Healey became particularly well known internationally for his research on Chinook salmon.

In 1990, Dr. Healey joined the faculty of the University of British Columbia as Director of the Westwater Research Centre, an interdisciplinary research unit that focused on scientific and policy issues related to water. As Director of Westwater, he was instrumental in securing several major research grants, in particular a prestigious "eco-research" grant under a fund established by the federal government to support interdisciplinary research on environmental problems in Canada. Dr. Healey is author of more than 225 scientific articles and reports and is editor of two books about water and sustainable development.

Throughout his career, Dr. Healey has taken a strong interest in how scientific information is used in developing resource management policy. He is recognized internationally as an expert on the ecology of Pacific salmon but also as an expert in the design of resource management systems. His research and teaching are strongly interdisciplinary, which has made him conversant with a number of other disciplines important to resource management decision-making, in particular resource economics, decision analysis and policy analysis.

He has served on many national and international boards and committees including the Core Team, which developed the strategic plan for ecosystem restoration for CALFED, the science advisory committee of the CALFED ERP, and is currently a member of the CALFED Independent Science Board.

Dr. Healey's Curriculum Vitae is attached (Attachment 2)

Interview Process: Since being identified as a potential candidate for Lead Scientist, Dr. Healey has participated in numerous introductory meetings and conversations with CALFED staff. As a result of these discussions and conversations with those that know and work with Dr. Healey, Director Grindstaff and staff forward this recommendation to the Authority for its consideration and recommendation.

Fiscal Information

Not applicable

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ATTACHMENT 1

List of Attachments

Attachment 1 – Lead Scientist Position Advertisement
Attachment 2 – Curriculum Vitae for Dr. Michael Healey
Resolution 06-10-01

Contact

Ron Ott
Deputy Director for Science
California Bay-Delta Authority

Phone: (916) 445-2168

LEAD SCIENTIST
CALFED Bay-Delta Program
Federal GS-15 salary range (\$104,000 - \$135,000)

The California Bay-Delta Authority (CBDA) has responsibility for overseeing the implementation of the CALFED Bay-Delta Program (CALFED). CALFED is an unprecedented, multi-billion dollar, 50-year cooperative effort of more than 20 state and federal agencies working to improve the quality and reliability of California's water supplies and revive the San Francisco Bay-Delta ecosystem (<http://calwater.ca.gov>).

The CALFED agencies are committed to developing the best scientific information possible to guide decisions and evaluate actions and program performance. Integrating world-class science and peer review into every aspect of the Bay-Delta Program is the goal of the Science Program (<http://science.calwater.ca.gov>). We have an opening for an established, experienced research scientist to direct the efforts of the Science Program as the CALFED Lead Scientist.

This position requires significant interaction with managers and directors of implementing agencies, academic researchers, and external stakeholder groups. The ideal candidate is an astute, assertive and collaborative professional who possesses exceptional communication skills and has the ability to manage a broad interdisciplinary team. Specific requirements include: 1) Ph.D. or equivalent experience in natural science and extensive experience interacting with a variety of stakeholder groups; 2) Evidence of stature in the broad scientific community; 3) Experience advising top managers and policy makers/promoting constructive integration of interdisciplinary science in natural resource management; 4) Strong record of publication in the peer-reviewed literature and other evidence of expertise relevant to the CALFED Program; 5) Evidence of the ability to work and communicate well with people from different professional backgrounds/weigh issues in a balanced manner when in an advisory capacity; 6) Evidence of the ability to work and think across disciplines and experience working with and advising on complex issues that integrate multiple disciplines. Qualifications should be the equivalent of those for a federal GS-15 or higher.

The Lead Scientist is appointed by and reports directly to the California Bay-Delta Authority Board (<http://calwater.ca.gov/CBDA/CBDAMembers.asp>).

The U.S. Geological Survey will be the host agency and the position will be for a multiyear term as an assignment to the USGS from any public, university or non-profit institution. Benefits will be covered through the home institution. The individual will be working out of the CBDA offices in Sacramento, CA. To apply, send a letter of interest and curriculum vitae. First review of application materials will begin November 14, 2005. Your materials should be sent to Stuart Satow at:

CPS Executive Search - 241 Lathrop Way - Sacramento, CA 95815

Ph. 916-263-1401 Fax: 916-561-7205

Email: resumes@cps.ca.gov

Recruitment brochure:

http://www.cps.ca.gov/ExecutiveSearch/Recruitments/Brochures/LS_CBDP.pdf

Michael Charles Healey
Curriculum Vitae

Address, Phone, Email:

Business:

Institute for Resources, Environment
And Sustainability
University of British Columbia
2202 Main Mall
Vancouver, BC, V6T 1Z4
Phone: 604-822-4705
Fax: 604-822-9250
Email: healey@interchange.ubc.ca

Home:

3784 West 16th Ave, Apt. # 201
Vancouver, BC, V6R 3C4
Phone: 604-228-9730
Email: healey@interchange.ubc.ca

Education:

BSc (Hons Zoology) University of British Columbia, Vancouver, BC, 1964
MSc (Zoology) University of British Columbia, Vancouver, BC, 1966
PhD (Natural History) University of Aberdeen, Scotland, UK, 1969

Employment:

Postdoctoral Fellow, Fisheries Research Board of Canada, Nanaimo, BC, 1969-1970
Research Scientist, Canadian Department of Environment, Freshwater Institute,
Winnipeg, MB, 1970-1974
Research Scientist, Program Leader, Fisheries and Oceans Canada, Pacific Biological
Station, Nanaimo, BC, 1974-1990
Professor and Director, Westwater Research Centre, University of British Columbia,
Vancouver, BC, 1990-1995
Professor, Institute for Resources, Environment and Sustainability, University of British
Columbia, Vancouver, BC, 1995-Present

Special Leaves:

Visiting Senior Policy Fellow, Woods Hole Oceanographic Institute, Woods Hole, MA,
1981-82
Visiting Professor, University of British Columbia, Vancouver, BC, 1988-89
Fulbright Fellow, University of Rhode Island, Kingston, RI, 1995-96
Fulbright Fellow, University of Rhode Island, Kingston, RI, 2002-03
Visiting Professor in Canadian Studies, Kwansai Gakuin University, Nishinomiya,
Hyogo, Japan, 2005-06

Academic Awards, Distinctions:

Union Carbide of Canada Scholarship - 1960-64.
B.C. Government Scholarships - 1961-64
National Research Council of Canada Scholarship - 1964-66
National Research Council of Canada Special Scholarship - 1966-68
National Research Council of Canada Postdoctoral Fellowship - 1969-70

Senior Policy Fellowship, Woods Hole Oceanographic Institution - 1982-83
Fulbright Fellowship, University of Rhode Island, Kingston, RI, 1995-96
Collaborative Residency Award, Rockefeller Study and Learning Center, Bellagio, Italy,
July 1999
Visiting Scholar, Peter Wall Institute for Advanced Studies, UBC, October-December
2001
Fulbright Fellowship. University of Rhode Island, Kingston, RI, 2002-03
Fisheries and Oceans Canada Silver Medal, 1987
Citation Classic - Aggression and self-regulation of population size in deer mice, 1984

Appointments as Advisor (Last 10 years only):

NSERC Review Committee for Industrial Chair in Biotelemetry, University of Waterloo,
1996.
Board of Directors, Canadian Water Network, National Network of Centres of
Excellence (Senior Scientist) 2001-05
SSHRC Midterm Review Committee, Coasts Under Stress project, St. John's, NF.
2002.
SSHRC Review Committee for Chair in Environmental Law and Policy, U. Victoria,
1996-1997.
Living Blueprint Committee, Pacific Salmon Foundation. Preparation of a Strategic Plan
for Salmon Habitat Management in BC, January-May, 1998.
Advisory Committee to assess options for conservation and restoration of bull trout in
Flathead Lake, Montana. US Fish and Wildlife Service, Montana Dept. of Fish
and Wildlife, United Kootenai/Salish Tribes, Montana, 1998.
Strategic Planning Core Team, Ecological Restoration of the Sacramento-San Joaquin
Delta, CALFED project, Sacramento, California, 1997-1998.
NAFTA Council for Environmental Cooperation Expert Group to Prepare Factual Record
regarding Enforcement of the Fishery Act against BC Hydro 1998-1999.
Science Board, Ecological Restoration of the Sacramento-San Joaquin Delta, CALFED
Bay-Delta project, Sacramento, California, 2000-2005

Teaching and Graduate Supervision:

At UBC I teach courses in fishery management and coastal resources management and
give blocks of lectures in courses on estuarine ecology and watershed
management.

I have supervised a total of 24 post graduate students (3 PDF, 9 PhD, 12 MSc)

Research Interests:

1. Fisheries Ecology:

I have 35 years of experience in research on the population ecology and
behavior of fishes. I am internationally recognized as an expert in the ecology
and behavior of Pacific salmon. Current research activities include ecological
energetics and behavior of migrating and spawning of Pacific salmon in relation
to environmental constraints. Locations for this research include British
Columbia and California.

2. Resource Management Science:

I have 32 years experience in conducting research and in advising policy makers on natural resources management. Most of my research in this area has emphasized issues in fishery management and most of my advisory activity over the past decade has involved regulated rivers and ecological restoration in rivers and deltas. Recently both my research and my advice have emphasized the importance of adaptive management and ecosystem based management.

3. Science in Public Policy:

I have 20+ years of experience in collaborative research with social scientists on the role of science in public policy. This research explores the institutional arrangements for natural resource management and the roles that science plays in the development and evolution of resource management policy. This area of research integrates well with my interest in adaptive management and ecosystem based management.

Research Grants and Contracts:

Over my academic career I have been awarded more than \$9 million in grants and contracts to support my research.

Currently funded research includes behavioral and physiological correlates of early return migration and pre-spawning mortality in Fraser River sockeye salmon and integrated assessment of fluvial and ecological responses to river restoration in California

Publications:

My publications total 227 of which 115 appeared in peer-reviewed journals or monographs. A selection of key publications is listed below.

- 1967 Healey, M.C. Aggression and self-regulation of population size in deermice. *Ecology* 48: 377-392.
- 1975 Healey, M.C. Dynamics of exploited whitefish populations and their management with special reference to the Northwest Territories. *Journal of the Fisheries Research Board of Canada* 32: 427-448.
- 1979 Healey, M.C. Detritus and juvenile salmon production in the Nanaimo estuary:
1. Production and feeding rates of juvenile chum salmon (*Oncorhynchus keta*). *Journal of the Fisheries Research Board of Canada* 36: 488-496.
- 1980 Healey, M.C. Utilization of the Nanaimo River estuary by juvenile chinook salmon, *Oncorhynchus tshawytscha*. *Fishery Bulletin* 77: 653-668.
- 1980 Healey, M.C. Growth and recruitment in experimentally exploited lake whitefish (*Coregonus clupeaformis*) populations. *Canadian Journal of Fisheries and Aquatic Science* 37: 225-267.
- 1984 Healey, M.C. and W.R. Heard. Inter- and intra-population variation in the fecundity of chinook salmon (*Oncorhynchus tshawytscha*) and its relevance to life history theory. *Canadian Journal of Fisheries and Aquatic Science* 41: 476-483.

- 1984 Healey, M.C. Multiattribute analysis and the concept of optimum yield. *Canadian Journal of Fisheries and Aquatic Science* 41: 1393-1406.
- 1986 Holtby, L.B. and M.C. Healey. Selection for adult size in female coho salmon. *Canadian Journal of Fisheries and Aquatic Science* 43: 1946-1959.
- 1990 Healey, M.C., R. Thomson and J. Morris. The distribution of commercial troll fishing vessels off Vancouver Island in relation to fishing success and oceanic water properties and circulation. *Canadian Journal of Fisheries and Aquatic Science* 47: 1846-1864.
- 1990 Healey, M.C. Implications of climate change for fisheries management policy. *Transactions of the American Fisheries Society* 119: 366-373.
- 1990 Holtby, L.B. & M.C. Healey. Sex specific foraging strategies and risk taking in coho salmon. *Ecology* 71: 678-690.
- 1992 Healey, M. C., and J. F. T. Morris. The relationship between the dispersion of salmon fishing vessels and their catch. *Fisheries Research* 15: 135-145.
- 1993 Henderson, M. A., and M. C. Healey. Doubling salmon production in the Fraser River: Is this sustainable development? *Environmental Management* 17:719-728.
- 1994 Healey, M. C., and T. M. Hennessey. The utilization of scientific information in the management of estuarine ecosystems. *Ocean and Coastal Management* 23:167-190.
- 1994 Tallman, R. F., and M. C. Healey. Homing, straying and gene flow among seasonally separated populations of chum salmon (*Oncorhynchus keta*). *Canadian Journal of Fisheries and Aquatic Science*. 51:577-588.
- 1997 Reinhardt, U. G., and M. C. Healey. Size-dependent foraging behaviour and use of cover in juvenile coho salmon under predation risk. *Canadian Journal of Zoology*. 75:1642-1651
- 1997 Walter, E. E., J. P. Scandol, and M. C. Healey. Ocean migration patterns of Fraser River sockeye salmon: a reanalysis of accepted patterns. *Canadian Journal of Fisheries and Aquatic Science* 54:847-858
- 1998 Healey, M. C., and T. Hennessey. The Paradox of Fairness: The Impact of Escalating Complexity on Fishery Management. *Marine Policy*. 22:109-118
- 1998 Healey, M. C. and A. Prince. Alternative tactics in the breeding behaviour of male coho salmon. *Behaviour* 135:1099-1024.
- 1999 Giannico, R. and M. Healey. Ideal free distribution theory as a tool to examine juvenile coho salmon habitat choice under different conditions of food abundance and cover. *Canadian Journal of Fisheries and Aquatic Science* 56:2362-2373.
- 2000 Hennessey, T., and M.C. Healey. Ludwig's ratchet and the collapse of New England groundfish stocks. *Coastal Management*.28:187-213.
- 2000 Healey, M.C., M.A. Henderson, and Ingrid Burgetz. Precocial maturation of male sockeye salmon in the Fraser River, British Columbia, and its relationship to growth and year-class strength. *Canadian Journal of Fisheries and Aquatic Science*.57:2248-2257.
- 2001 Healey, M.C., P. Kline, and C-F Tsai. Saving the endangered Formosa landlocked salmon. *Fisheries* 26:6-13.
- 2001 Healey, M.C. Patterns of reproductive investment by stream- and ocean-type chinook salmon (*Oncorhynchus tshawytscha*). *Journal of Fish Biology* 58:1545-1556

- 2003 Healey, M.C., R. Lake, and S.G. Hinch. Energy expenditures during reproduction by sockeye salmon (*Oncorhynchus nerka*). *Behaviour* 140:161-182.
- 2004 Cooke, S.J., S.G. Hinch, A.P. Farrell, M.F. Lapointe, S.R.M. Jones, J.S. Macdonald, D.A. Patterson, M.C. Healey, and G. Van Der Kraak. Abnormal migration timing and high en route mortality of sockeye salmon in the Fraser River, British Columbia. *Fisheries* 29:22-33.
- 2004 Mehranvar, L., M.C. Healey, A.P. Farrell, and S.G. Hinch. Social versus genetic measures of reproductive success in sockeye salmon, *Oncorhynchus nerka*. *Evolutionary Ecology Research* 6:1167-1181.
- 2005 Cooke, S. J.; Crossin, G. T.; Patterson, D. A.; English, K. K.; Hinch, S. G.; Young, J. L.; Alexander, R. F.; Healey, M. C.; Van Der Kraak, G.; Farrell, A. P.. Coupling non-invasive physiological assessments with telemetry to understand inter-individual variation in behaviour and survivorship of sockeye salmon: development and validation of a technique. *Journal of Fish Biology* 67:1342-1358,
- 2006 Steven J. Cooke, Scott G. Hinch, Glenn T. Crossin, David A. Patterson, Karl K. English, Michael C. Healey, J. Mark Shrimpton, Glen Van Der Kraak and Anthony P. Farrell. Mechanistic basis of individual mortality in Pacific salmon during spawning migrations *Ecology* 87:1575-1586.



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**CALIFORNIA BAY-DELTA AUTHORITY
RESOLUTION 06-10-01**

**RECOMMENDING TO THE SECRETARY FOR RESOURCES
THE APPOINTMENT OF DR. MICHAEL HEALEY AS LEAD SCIENTIST
FOR THE CALFED BAY-DELTA PROGRAM**

WHEREAS, The CALFED Programmatic Record of Decision AND THE California Bay-Delta Authority Act call for a Lead Scientist to develop, direct, and implement the programmatic goals of the CALFED Science Program and develop priorities with CALFED program managers and implementing agencies pursuant to these goals; and

WHEREAS, Assembly Bill 1803, enacted this year to implement the Legislature's reorganization of CALFED, makes the Secretary for Resources responsible for appointing the Lead Scientist with the recommendation of the Authority and the Director of the Authority; and

WHEREAS, the Lead Scientist Selection Committee, the Independent Science Board and Director Joe Grindstaff unanimously recommend Dr. Michael Healey for the position of Lead Scientist based on his outstanding scientific stature, leadership, organizational skills, interpersonal skills, and his commitment to the role of Lead Scientist;

NOW, THEREFORE, BE IT RESOLVED that the California Bay-Delta Authority recommends to the Secretary for Resources the appointment of Dr. Michael Healey as Lead Scientist for the CALFED Bay-Delta Program.

CERTIFICATION

The undersigned Assistant to the California Bay-Delta Authority does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the Authority held on October 12, 2006.

Dated: _____

Julie E. Alvis
Assistant to the California Bay-Delta Authority