

**Development of Juvenile Steller Sea Lion (*Eumetopias jubatus*) Diving Behaviour in Alaska**

Rehberg, Michael J.<sup>1</sup>; Raum-Suryan, Kimberly L.<sup>1</sup>; Pitcher, Kenneth W.<sup>1</sup>; Gelatt, Thomas S.<sup>1</sup>

(1) Alaska Department of Fish and Game, 525 West 67th Ave., Anchorage, AK, 99518, United States

A potential factor in the decline of Steller sea lions (SSLs) in Alaska is reduced juvenile survival. To better understand the changes in diving patterns that occur during transition to nutritional independence, and to ultimately determine if diving behaviour indicates poor foraging ability that could lead to a decrease in survival and recruitment, we are studying dive behaviour development by SSL juveniles in Alaskan waters. Between March 1998 and September 2000, satellite-linked depth recorders (SDRs) were deployed on 71 juvenile SSLs (31 males, 40 females) aged 1.64 to 22.4 months within Southeast Alaska, a stable population (n = 57) and Prince William Sound, a declining population (n=14). Deployment length averaged 55.9 days (range 3-181 days). Dive data histograms, reported during 3335 animal-days, summarized dive maximum depth, time spent within depth ranges, and dive duration into 4 periods, representing 03:00-08:59, 09:00-14:59, 15:00-20:59, and 21:00-02:59 local solar time. SDRs also reported the maximum actual dive depth reached per day for 1680 animal-days. This measure describes potential ability of juveniles to follow prey to depth. In Southeast Alaska, one-month-old pups dove to a maximum daily depth of 10 meters. Five- and ten-month-old SSLs, likely nutritionally dependent, dove to a maximum of 94 and 222 meters, respectively. Juveniles 15 months of age, some of whom had presumably been weaned, exhibited diving to 172 meters. Using statistical models which incorporate parameters such as age, sex, season, geographic region, and body composition will allow better understanding of diving ability development.

14<sup>th</sup>  
BIENNIAL  
CONFERENCE ON  
THE BIOLOGY  
OF MARINE  
MAMMALS



VANCOUVER, CANADA NOV 28 – DEC 3, 2001

**CONFERENCE COMMITTEE**

John Nightingale – *Chair*

Leslie Cornick  
Susan Heaslip  
Karen Howe  
Christie Hurrell  
Ginny Leung  
Sarah Lewis  
Terry Odell  
Sabrina Pinkerton  
John Shepherd  
Leslie Smith  
Brian Wooller  
Don Wong

**SCIENTIFIC PROGRAM COMMITTEE**

John Ford – *Co-Chair*  
Andrew Trites – *Co-Chair*

Russ Andrews  
Dave Bain  
Lance Barrett-Lennard  
John Bengtson  
Doug DeMaster  
Frances Gulland  
Paul Nachtigall  
Dave Rosen  
Peter Ross  
Jane Watson

Kerry Irish – *Scientific Program Committee Coordinator*  
Sheryl Knoedler – *Conference Coordinator*



**Society for Marine Mammalogy**