

Kristy Lindemann-Biolsi^{1,2}, Candyce Paparo^{2,3}, & Afia Azaah^{1,2}

1. St. Francis College
2. Center for the Study of Pinniped Ecology & Cognition
3. Long Island Aquarium and Exhibition Center

Long-Term Memory for a Simple Discrimination Task in Two California Sea Lions
(*Zalophus californianus*)

Long-term memory has been studied in a variety of species and contexts. Studies have demonstrated that nonhuman animals have the ability to retain information for varying time limits, but most of these are on the level of hours, days, or weeks. We argue that due to the behavioral ecology of pinnipeds, and of sea lions in particular, the retention of information from year to year is a critical cognitive ability. Our current research has therefore focused on long-term memory in two California sea lion subjects, Bunker and Java. These subjects learned a simple discrimination task to a 95% criterion. After an approximately 16 month interval with no exposure to the stimuli or the task/apparatus, they performed at 100% correct response levels. This was then replicated with the same two sea lions after an 18 month interval without exposure to the stimuli or task without decrement. This evidence supports the sparse data available on the long-term memory capabilities of marine mammals and of sea lions in particular.