

## MINI-BIOGRAPHIES

### SAM K. WASSER, PH.D.

(Adapted from the Department of Zoology, University of Washington)

Dr. Sam Wasser received his Ph.D. from the University of Washington in 1981. His research uses endocrinology and molecular biology techniques to address questions concerning conservation and evolutionary biology in free-ranging wildlife. He has been particularly interested in the evolution of mechanisms that enable mammals to control the timing of reproduction in response to environmental pressures.

To facilitate these studies, Dr. Wasser pioneered the development of noninvasive techniques to extract steroid hormones from feces of free-ranging wildlife. Over the years, he began applying these techniques to conservation problems, using fecal stress hormone measures to demonstrate the relative impacts of various timber harvest techniques on physiological stress in Northern Spotted Owls. Dr. Wasser, along with other scientists in Africa and the U.S., used these techniques to examine long-term consequences of poaching on African elephants. Realizing the power of this noninvasive technology, he also developed techniques to measure DNA in feces.

His laboratory has since applied noninvasive fecal DNA techniques in mark/recapture models to estimate the number and distribution of a variety of wildlife species at risk. They also applied these fecal DNA techniques to wildlife forensics. The ease of sample collection has enabled scientists to develop highly accurate geographic maps of gene frequencies for use in tracking the origin of poached ivory from African elephants.

### KENINE E. COMSTOCK, PH.D.

Dr. Kenine Comstock recent work at the Fred Hutchinson Cancer Research Center in Seattle involved developing a genetic method for assessing the geographic origin of ivory that is entering the market. She and other scientists use molecular techniques to isolate tiny repetitive regions of DNA (called microsattelites). These DNA fragments are electrophoresed and used as markers to identify unique populations of elephants. Dr. Comstock's work will be used to create a geo-genetic map of Africa that shows the allele frequencies of the elephants and the regions where those alleles are found.

Dr. Comstock received her Ph.D. from the Oregon Health Sciences University in Portland Oregon in 1993 in Biochemistry and Molecular Biology. She graduated from Oregon State University in Corvallis Oregon in 1984 with her B.S. degree in Biology.

Since 1984, Dr. Comstock has worked as a Research Technologist at the Shriner's Hospital for Crippled Children in Portland, and then as a Postdoctoral Fellow at the Cystic Fibrosis and Pulmonary Research and Treatment Center in North Carolina. In 1996, Kenine came to the Fred Hutchinson Cancer Research Center to continue her Postdoctoral Fellowship in conjunction with the University of Washington and The Center for Wildlife Conservation at the Woodland Park Zoo.

Dr. Comstock has published (or has been a collaborator for) eight separate articles on her various research projects, and has a patent on a invention for using PCR in determining a gene deletion status.

