Camryn Allen

Marine Mammal and Turtle Division, SWFSC

Camryn D. Allen, Ph.D. joined the Marine Turtle Ecology and Assessment Program in 2011. In her time there, she has developed the first sea turtle endocrinology laboratory at a NMFS science center. Camryn's endocrinology research examines the sex ratio (using testosterone to determine juvenile turtle sex) at foraging grounds for all six sea turtle species listed as endangered or threatened under the U.S. Endangered Species Act (ESA). In addition, Camryn is involved in determining pregnancy rate, maturity state, and stress response in free-ranging cetaceans using hormones extracted from biopsy blubber samples. She is also deeply involved in the ESA and International Union for Conservation of Nature (IUCN) Red List status assessments for green sea turtles which determine the global and regional status (endangered, threatened, not listed, etc.) of the green sea turtle. Camryn also lead a stable isotope study that was informative for the management of sea turtles off the U.S. West coast, which determined the migratory origin of loggerhead turtles caught by the gillnet fishery in the Southern California Bight.

Eric Archer

Marine Mammal and Turtle Division, SWFSC

From my graduate work on morphometric and genetic variation in striped dolphins, I have developed an interest in the development and detection of population subdivision in small cetaceans. I am interested in exploring new analytical tools for genetic data that will assist managers in the identification of marine mammal stocks. My current research has been focused on methods for delimiting cetacean subspecies. Some of the recent projects that I have been involved in are:

- Differentiation of global fin whale (*Balaenoptera physalus*) subspecies using mitogenomics
- Morphometric and genetic differentiation of coastal and offshore bottlenose dolphins (*Tursiops truncatus*) in the Southern California Bight
- Development of a toolkit in R for summarizing genetic data and analysis of population structure.
- A variety of studies to evaluate the effect of the ETP tuna purse-seine fishery on dolphin reproduction and early mortality

On the off-hours, I enjoy teaching and practicing martial arts (Tang Soo Do), flying or anything to do with airplanes, and being frustrated by my inherent lack of talent on bass.

Lisa T. Ballance

Director, Marine Mammal and Turtle Division, SWFSC

As the Director of the Marine Mammal and Turtle Research Division, SWFSC, NOAA, Lisa is responsible for setting the research priorities in accordance with division mandates for seven science programs and some 70 individuals. Lisa has been with NOAA Fisheries since 1988, when she joined the agency as a Graduate Research Associate studying community and physiological ecology of seabirds associated with yellowfin tuna and spotted and spinner dolphin schools in the eastern tropical Pacific. She obtained her doctoral degree from the University of California Los Angeles in 1993, and accepted a post-doctoral position the same year with the National Research Council, conducting research on comparative cetacean ecology in the eastern tropical Pacific and tropical Indian oceans. She became a marine ecologist with SWFSC in 1996, Chief Scientist of the Eastern Tropical Pacific Cetacean and Ecosystem Research Program in 1999, and Leader of the Ecosystem Studies Program in 2001. In addition to her doctorate, she holds a Master of Science degree from Moss Landing Marine Laboratories (1987) and a Bachelor of Science degree from the University of California San Diego (1981). Her research has always included a strong ecological component and is heavily focused on cetaceans and seabirds in oceanic systems, ecological trends in space and time (at interannual to regime-shift scales), and ecosystem-based approaches to management. Lisa is also a Professor at the Scripps Institution of Oceanography, Research Adviser with the National Academies, and Affiliate Professor at the University of San Diego. She is an editorial board member of Marine Ornithology, Past Chair of the Pacific Seabird Group, Elective Member of the American Ornithologists' Union, recipient of the Department of Commerce Silver and Bronze Medals and NOAA Fisheries Supervisor of the Year awards, and has been featured on the cover of the "Association for Women in Science" magazine. Her research has been supported by grants from NOAA, the National Science Foundation, National Geographic Society, World Wildlife Fund, and International Fund for Animal Welfare.

Jay Barlow

Marine Mammal and Turtle Division, SWFSC

Jay received a B.S. in Biology from Arizona State University (1976) and a Ph.D. in Biological Oceanography from UCSD’s Scripps Institution of Oceanography (1982). Jay is currently a Senior Scientist and an Adjunct Professor at Scripps Institution of Oceanography. He has authored or coauthored 110 professional papers and 75 technical reports. He is a member of IUCN’s Cetacean Specialist Group and Mexico’s vaquita recovery team and has received the U.S. Department of Commerce’s Gold and Silver Medals. His research interests include abundance estimation and trend monitoring using visual and acoustic methods, stock assessment, population modeling, cetacean acoustic behavior and habitat modeling, in locations throughout the Pacific, and in Antarctica and China. He is currently President Elect for the Society of Marine Mammalogy.

Elizabeth Becker

Marine Mammal and Turtle Division, SWFSC

Elizabeth's research expertise includes:

--Predictive habitat-based models of cetacean density and distribution, with emphasis on the use of remotely sensed and modeled ocean data;
--Multi-covariate line-transect abundance estimation;
--Statistical techniques in marine ecological research;
--Marine species risk assessment and management.

Scott Benson

Marine Mammal and Turtle Division, SWFSC

Scott Benson is the lead investigator of the leatherback turtle ecology program and coordinates studies of the distribution, abundance, movement patterns, foraging ecology, and health of endangered western Pacific leatherback turtles along the U.S. West Coast and throughout the Pacific. His research integrates bio-telemetry, aerial surveys, vessel-based sampling, and satellite remote sensing to enhance understanding of how oceanographic processes influence the occurrence and behavior of this species, and to aid U.S. and international conservation and recovery efforts. Since 1986, Scott has been involved in ecological research and conservation of marine vertebrates in the Pacific Ocean, including integrated studies of marine mammals and seabirds along the U.S. West Coast. Scott is stationed at Moss Landing Marine Laboratories.

Charlotte Boyd

Marine Mammal and Turtle Division, SWFSC

My research interests center on understanding how the observed seasonal distribution and movement patterns of highly-mobile long-lived marine vertebrates (such as seabirds and cetaceans) relate to the abundance and distribution of prey and underlying physical and biological habitat features; and how spatial and temporal variability in habitat features and ecological processes influences the foraging success, reproductive performance, and survival of these species.

My PhD research focused on the effects of changes in the abundance and distribution of prey on the spatial patterns and foraging success of seabirds and other central place foragers. The results of this research highlighted the importance of the depth distribution of prey for surface-foraging seabirds, and provided insights into the potential for area closures and broad-scale fisheries management to safeguard prey availability for seabirds and pinnipeds.

My research at the Southwest Fisheries Science Center and Scripps Institution of Oceanography involves investigating the spatial ecology of cetaceans and other highly-mobile long-lived marine vertebrates as a means to identifying critical habitat under the U.S. Endangered Species Act. Current research projects include a spatially-explicit agent-based model of Southern Resident killer whales (*Orcinus orca*) to support identification of critical habitat throughout their range, and developing methods for estimating and predicting the seasonal distribution and movement patterns of highly-mobile marine vertebrates by integrating various data types, such as line transect and spatial capture-recapture data.

Robert L. Brownell, Jr

Marine Mammal and Turtle Division, SWFSC

Bob is Senior Scientist for International Protected Resources at the Southwest Fisheries Science Center (SWFSC), NOAA Fisheries Service, in Pacific Grove, California. He has conducted research on the biology and conservation of whales, dolphins and porpoises throughout the world with major studies in Mexico, southern South America, Japan, and Russia. He has published over 200 scientific papers, book chapters, and management documents on various aspects of whale, dolphin, and porpoise biology, conservation, and management. He has been a member of the U. S. delegation to the International Whaling Commission (IWC) since 1975 and served as Vice-Chair and Chair of the IWC's Scientific Committee. He was President of the Society for Marine Mammalogy from 1987 to 1989.

Before joining NOAA, Bob served as the Chief of Marine Mammal Research for the U.S. Fish and Wildlife Service from the late 1970s to 1991. Between 1991 and 1993, he was the Science Advisor to the Assistant Secretary for Oceans at the U.S. Department of State. In 1993, Bob became the Director of the Marine Mammal Division at the SWFSC in La Jolla, California, and then took up his present position on the Monterey Peninsula in 2002. He has also been a member of the various marine mammal specialist groups under the IUCN (The World Conservation Union) since the 1970s and has served as a Scientific Advisor to the U.S. Marine Mammal Commission.

Susan Chivers

Marine Mammal and Turtle Division, SWFSC

My research focuses on characterizing cetacean life history strategies, particularly those of small delphinid populations. I currently work on projects to estimate growth and reproductive parameters that can be used to distinguish discrete populations. I also work on projects to better understand the health and condition of their populations. These projects include quantifying contaminant loads in individual animals that may influence their health and reproductive potential. This work contributes to the assessment and monitoring of cetacean populations, particularly those that are impacted by fisheries or other types of human-caused disturbances.

John Durban

Marine Mammal and Turtle Division, SWFSC

My research focuses on the population ecology of cetaceans, including assessments of abundance and demographics using photographic mark-recapture methods; photogrammetric studies of individual size, growth and body condition using unmanned aerial systems; and analysis of movement patterns using photo-identification and satellite telemetry. I currently work on the population assessment of eastern North Pacific gray whales, the ecosystem role of killer whales in the North Pacific and Antarctic, and the response of beaked whales to Navy sonar exposure. I combine innovative field-based data collection with the development of custom statistical analysis tools to inform current management and conservations issues.

Peter Dutton

Marine Mammal and Turtle Division, SWFSC

I've been at the Southwest Fisheries Science Center since 1995, where I head the Marine Turtle Genetics Program, and serve as Chair of the Genetics Task Force of the IUCN Sea Turtle Specialist Group. My research interests include the evolution, phylogeography, ecology, and conservation biology of marine turtles. I use genetics and satellite telemetry as tools to study the life history, migration and habitat use of sea turtles. After receiving my Bachelor's degree in Biology from Stirling University in Scotland, I emigrated to Suriname, where I began working with leatherback and green turtles.

My Current projects include:

- Developing new genetic markers (microsatellites) for sea turtles
- Molecular Ecology of leatherback, loggerhead, hawksbill and green turtles
- Evaluating incidental take of sea turtles in Pacific fisheries
- Migration, habitat use and dive behavior of leatherbacks, loggerheads and green turtles
- Population biology and conservation of leatherback turtles.

Tomo Eguchi

Marine Mammal and Turtle Division, SWFSC

Tomo Eguchi joined the sea turtle research program at the Southwest Fisheries Science Center in March 2004. He has a wide variety of research experience and education. He received an M.S. from Moss Landing Marine Laboratories (MLML), California State University (1998), studying diving behavior, movements, food habits, and morphology of harbor seals in the Monterey Bay area. After learning field skills at MLML, he learned theoretical and analytical ecology at Montana State University in Bozeman, MT, and received a Ph.D. in ecology (2003). Along the way, he also earned an M.S. in statistics from MSU (2003). Eguchi's dissertation was about hierarchical Bayesian analysis of mark-recapture abundance estimation, which was applied to photographic identification studies along the east coast of the US. His research interests include general ecology, conservation biology, population biology, population genetics, demography, population modeling, and statistical inference. He is also involved with quantitative analysis of movements, spatial modeling, and habitat analysis. Current projects include life-history parameter estimations for leatherback turtles, analyses of inter-nesting diving behavior and habitat use of leatherback turtles, Bayesian line-transect analyses, abundance estimations of turtles from various sources of nesting-beach survey data, development of innovative statistical analyses of archived dive data, temporal/spatial modeling of habitat, predictive modeling of interactions between protected species and fisheries, and development of quantitative management tools for marine turtles. Since joining the sea turtle program at SWFSC, he has been involved in a wide variety of field projects, including San Diego Bay and Long Beach green turtle in-water capture, Baja loggerhead turtle aerial survey, Southern California Bight loggerhead turtle aerial survey, central California leatherback turtle aerial survey, central California leatherback turtle in-water capture, St Croix leatherback turtle nesting beach studies, and the Gulf of Mexico oil spill response. He has also been involved in status review teams for loggerhead turtles, white sharks, and green turtles and an expert working group for leatherback turtles.

Mike Ford

Director, Conservation Biology Division, NWFSC

Michael Ford is Director of the Conservation Biology Program at the Northwest Fisheries Science Center. He joined the Northwest Fisheries Science Center in 1995 as a National Research Council Research Associate, where he worked on using molecular genetic data to study local adaptation in Chinook salmon. Subsequently, he has worked a variety projects related primarily to salmon conservation. He is also the acting Program Manager of the NWFSC's Marine Mammal Program. He received his B.S. in Biological Sciences from Stanford University and his Ph.D. in population genetics from Cornell University.

Current research projects include: estimating the relative reproductive success of hatchery and naturally produced salmon; developing and applying mathematical models to predict rates of domestication; using molecular markers to study natural selection,

gene flow, and population structure; applying population viability concepts to salmon harvest management; and using molecular markers to study marine mammal prey preferences.

Karin Forney

Marine Mammal and Turtle Division, SWFSC

Since 1987, I have conducted research on the abundance, distribution, ecology, and status of over 25 species of cetaceans (whales, dolphins and porpoises) in the eastern and central North Pacific Ocean, with emphasis on small cetaceans. I have also collaborated on studies of endangered leatherback turtles off California. My research interests include 1) oceanographic variability and its effect on the abundance and distribution of cetaceans and other marine vertebrates, 2) habitat-based predictive modeling of cetacean density and distribution, 3) monitoring and mitigating impacts of human-caused mortality and injury on protected species, and 4) quantitative methods for estimating marine animal abundance and evaluating population trends. Additional responsibilities include writing or co-authoring annual Stock Assessment Reports for Pacific Marine Mammal Stocks under NMFS jurisdiction, and conducting field research in small aircraft and aboard oceanographic research vessels.

Alex Gaos

Marine Mammal and Turtle Division, SWFSC

Alex is a marine ecologist with the Marine Turtle Genetics Program. He received a Master's degree in Biology from San Diego State University (SDSU), which focused on the use of satellite telemetry technologies to gain insights into the spatial ecology of hawksbill turtles. This research led to the groundbreaking discovery that hawksbills predominately inhabit mangrove estuaries in the eastern Pacific, rather than the coral reef systems used by the species in other ocean regions. These findings have had broad implications for understanding hawksbill life-history and implementing effective conservation strategies. Alexander is currently a PhD candidate with the Joint Doctoral Program in Ecology at UC Davis and SDSU, where he uses molecular tools to understand hawksbill genetics and help design management actions. Alexander is also the Co-founder and Executive Director of the Eastern Pacific Hawksbill Initiative (ICAPO), an international grassroots conservation organization aimed at understanding and protecting hawksbill turtles in the eastern Pacific Ocean, as well as improving the socio-economic conditions of impoverished coastal community members that depend on hawksbills for their livelihoods. Alexander is a member of the IUCN Marine Turtle Specialist Group and has managed marine turtle nesting beach protection, in-water monitoring and fisheries bycatch reduction programs in countries throughout Latin America for more than a decade.

Tim Gerrodette

Marine Mammal and Turtle Division, SWFSC

My main scientific interests are in the assessment, management and conservation of marine life. A central part of assessment is a well-designed monitoring program that is able to detect changes in abundance over time. There is often a great deal of uncertainty associated with such assessments, and an important task of wise management is to manage effectively and conservatively in the face of this uncertainty. The Precautionary Principle gives guidance about how to manage in the face of uncertainty.

Brad Hanson

Conservation Biology Division, NWFSC

Brad Hanson joined the Northwest Fisheries Science Center in April of 2003. Previously, Brad worked as a Wildlife Biologist at the National Marine Mammal Laboratory in Seattle, WA. Brad received a Ph.D. from the University of Washington where he worked on the development of improved tag attachment systems for small cetaceans. He also holds an M.S. in Fisheries from the University of Washington and a B.A. in Zoology also from the University of Washington.

Brad is an ecologist and is currently studying foraging and habitat use of Southern Resident killer whales and health assessment of harbor and Dall's porpoises.

Marla Holt

Conservation Biology Division, NWFSC

Marla Holt is a Research Wildlife Biologist for the Marine Mammal Ecology Team. She joined the Northwest Fisheries Science Center as a National Research Council (NRC) Postdoctoral Associate for the Marine Mammal Program starting in October of 2006. Her postdoctoral research was an investigation on the effects of vessel noise on the acoustic signals of Southern Resident killer whales. She also wrote a review paper which focused on sound exposure in Southern Resident killer whales. Marla received her Ph.D. from the University of California, Santa Cruz in Ocean Sciences. Her dissertation focused on pinniped spatial acoustics including sound localization and auditory masking in captive seals and sea lions and call directionality in free-ranging northern elephant seals. Marla also has an M.S. in Marine Sciences and a B.A. in Marine Biology both from the University of California, Santa Cruz.

Marla's current research focuses on marine mammal acoustics including the effects of noise on the acoustic signals and behavior of Southern Resident killer whales, their use of sound during different activity states, and the cost of sound production in odontocetes.

Her research interests include marine mammal sound production and acoustic communication, sensory ecology (including hearing capabilities and auditory scene analysis), sound exposure and acoustic risk factors, and passive acoustic monitoring.

Michael Jensen

Marine Mammal and Turtle Division, SWFSC

Michael Jensen is a Marine Biologist with the Marine Turtle Genetics Program. He finished his Ph.D. at the University of Canberra in Australia 2010 and soon after moved to join SWFSC. During his M.Sc. and Ph.D. he worked on various aspects of marine turtle conservation genetics. He now works on a large scale global assessment of green turtle population structure using molecular markers. The aim of his project is to provide a comprehensive analysis that will define breeding populations and characterize foraging populations of green turtles. This information will form the basis for DPS evaluation of the globally listed green turtle. His research interests include marine vertebrate ecology and behavior, population dynamics and genetics, biogeography, threatened species biology and conservation and field biology.

Nick Kellar

Marine Mammal and Turtle Division, SWFSC

My research encompasses a range of biological disciplines from reproductive physiology and biochemistry to population biology; however the focus is fairly specific. I measure biomarkers, mostly hormones, from small skin samples of free-ranging cetaceans, to help assess population health, demography, and reproduction.

So why do this? Well first you need to step into the shoes of a field biologist for a moment. Imagine you are on the bow of a research ship, and just a few dozen feet before you are a thousand spotted dolphins, zigging and zagging, leaping and diving. At any given moment, only a fraction of the school is visible from the surface. Each animal comes up just long enough to breathe, then disappears again. Now imagine trying to estimate how many dolphins are in that school let alone, how many are young or old, male or female, pregnant or not pregnant. It seems next to impossible, doesn't it?

To help us, we employ a darting technique that takes a small piece of skin and blubber called a biopsy. This technique lets us obtain up to fifty biopsies in a single day. Back in the lab, we analyze the levels of steroid hormones in the blubber using laboratory procedures developed here at SWFSC. From this analysis, we can determine if an animal is pregnant, sexually mature, or even if it is likely experiencing chronic stress response. We use these findings to assess the relative health of dolphin and whale populations relative to potential anthropogenic disturbances such a pollution, fishing pressure, and acoustic perturbations from sonar use, shipping traffic, and oil exploration.

Aimee Lang

Marine Mammal and Turtle Division, SWFSC

While completing my PhD at Scripps Institution of Oceanography, I worked with scientists at SWFSC on a project studying the population genetics of gray whales. This work gave me the opportunity to be part of a field research team that studied a small group of gray whales feeding off the coast of Sakhalin Island, Russia. Over time, we were able to collect samples from the majority of individuals that utilize this feeding ground, and my dissertation research used both population-level and individual-based analyses (e.g., parentage analysis, genetic tracking of individuals) to provide insight into the population structure of gray whales. After completing my PhD in 2010, I began work as a postdoc with the Marine Mammal Genetics Group. My current projects include:

- Assessing the population structure of gray whales on feeding grounds in the North Pacific
- Using a simulation-based approach to evaluate plausible levels of immigration into the Pacific Coast Feeding Group of gray whales
- Assessing relatedness of individuals within the Pacific Coast Feeding Group of gray whales to better understand patterns of recruitment
- Using mitogenomics to evaluate the subspecific taxonomy of blue whales

My work with gray whales has provided me with an opportunity to participate in the International Whaling Commission Scientific Committee meetings and has increased my interest in understanding how genetic analyses can be used to inform management decisions on both an international and domestic level. In addition to my work in the genetics lab, I also participate in our division's shore-based counts of migrating gray whales.

Robin LeRoux

Marine Mammal and Turtle Division, SWFSC

Robin LeRoux is the Marine Turtle Coordinator for Southwest Fisheries Science Center, and is integral to the activities of the Marine Turtle Genetics Program and the Marine Turtle Ecology and Assessment Program. She began working with marine turtles at the SWFSC in 1998. During this time, her role has evolved from conducting research in our genetics program into program management. Her primary responsibilities include facilitating the flow of information among the two marine turtle programs and with our research partners, short and long-term program planning to meet national development plans and strategic frameworks, coordination and preparation of marine turtle research permits, and management of the program budgets. In addition to her coordinating role, she conducts research targeting genetic stock structure of hawksbill turtles in the Atlantic Ocean and fisheries by-catch in the Pacific Ocean. During her career she has had the unique opportunity to participate in various foraging and nesting beach field projects in the Caribbean and Pacific.

Karen Martien

Marine Mammal and Turtle Division, SWFSC

My research focuses on using genetic analysis and genetic modeling techniques to inform management decisions for marine mammals. I also study genetic structuring of cetacean species in the central and western Pacific Ocean. My current projects include:
--Social structure of Hawai'i Insular false killer whales;
--Global genetic structure of false killer whales, melon-headed whales, and pygmy killer whales, all with a focus on Hawaiian waters;
--Developing a framework for integrating multiple lines of evidence for delineating stocks under the U.S. Marine Mammal Protection Act;
--Introgressive hybridization of Fraser's dolphin nuclear and mitochondrial DNA into the Mariana Islands population of bottlenose dolphins.

Richard Merrick

Director, Scientific Programs, and Chief Science Advisor, NOAA Fisheries

Dr. Merrick began serving as Director of Scientific Programs and Chief Science Advisor in 2011. In this capacity, he leads NOAA Fisheries' efforts to provide the science needed to support sustainable fisheries and ecosystems and to continue the Nation's progress in ending overfishing, rebuilding fish populations, saving critical species, and preserving vital habitats. As the head of NOAA Fisheries' scientific operations, Dr. Merrick directs NOAA's six regional Fisheries Science Centers, including 30 laboratories. He joined NOAA Fisheries in 1985 as a marine mammal staff scientist at the Alaska Fisheries Science Center. In 1997, he transferred to the Northeast Fisheries Science Center, where he initially served as Branch Chief for Protected Species, and then as Chief of the Resource Evaluation and Assessment Division where he directed the Center's assessment, ecological, and social science research for fish and protected species. He has led various regional and national efforts to improve fishery and protected resources science, and has broad experience in dealing with a wide variety of controversial fishery and protected species issues. Dr. Merrick's holds a Ph.D. in Fisheries from the University of Washington; M.S. degrees in Biological Oceanography and in Marine Resource Management from Oregon State University; and an M.S. in City and Regional Planning and a B.S. from Clemson University.

Jeff Moore

Marine Mammal and Turtle Division, SWFSC

Jeff has been with the Marine Mammal and Turtle Division since 2010 and became leader of its EMAP Program in 2015. His primary expertise includes quantitative ecology, population dynamics and risk assessment. In his time with MMTD, he has developed and applied Bayesian methods for estimating marine mammal abundance, trends and other demographic parameters; quantifying population impacts of bycatch on sea turtles and marine mammals; conducting risk assessments for protected species; and developing quantitative decision tools to for policy and management. He has also worked on international small-scale fisheries bycatch issues. Jeff serves on advisory committees such as the IUCN Cetacean Specialist Group, the Biological Review Team for reviewing the status of northeastern Pacific white sharks, and the expert statistical panel for analysis of vaquita monitoring data. He regularly contributes to protected species management processes such as updating the Guidelines for Marine Mammal Stock Assessments, Take Reduction Planning, and Pacific Fishery Management Council-related activities. He has authored ~40 peer-reviewed scientific journal articles since 2004 in addition to numerous NOAA agency and IWC technical reports.

Phil Morin

Marine Mammal and Turtle Division, SWFSC

My research has focused on the application of genetics to disease research, on conservation in a variety of terrestrial organisms, and now on marine organisms. I previously studied the evolution, phylogeography, and social structure of chimpanzees and other primates. I then moved into biotechnology research, and for 5 years (1995-1999) I worked in human genetic disease biotechnology, applying high-throughput microsatellite and SNP genotyping to linkage and association studies of complex disease, in human and baboon study populations. In 1999 I moved to Leipzig, Germany, where I formed the Laboratory for Conservation Genetics (LCG) as an incubator project within the Max Planck Institute for Evolutionary Anthropology. The LCG developed and applied genetics technologies for conservation, and performed basic research to improve genetics technologies for molecular ecology. I joined the SWFSC Marine Mammal Genetics Group in 2003. Current projects include the development of Single Nucleotide Polymorphisms (SNPs) as new molecular markers for population genetics studies, use of real-time PCR for DNA quantification, sex determination, and genotyping, and molecular methods for extracting and amplifying DNA from historical and preserved samples. Since 2008 the advances in high-throughput DNA sequencing technologies have allowed us to sequence hundreds of whole mitochondrial genomes for population and phylogeography studies, and to rapidly obtain dozens of nuclear sequences from population samples for SNP discovery.

Dawn Noren

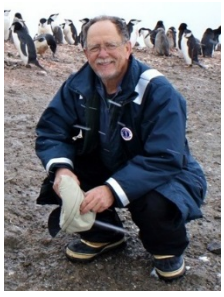
Conservation Biology Division, NWFSC

Dawn Noren joined the Northwest Fisheries Science Center in May of 2003. Previously, Dawn was a National Research Council (NRC) Postdoctoral Research Associate at the National Marine Mammal Laboratory at the NOAA NMFS Alaska Fisheries Science Center, Seattle, WA, where she conducted research on Steller sea lion juvenile body condition, fasting physiology, and diving. Dawn received a Ph.D. in Ecology and Evolutionary Biology from the University of California, Santa Cruz. Her dissertation focused on elephant seal body condition, thermoregulation, and fasting physiology. She also earned an M.S. in Marine Sciences from the University of California, Santa Cruz. For her master's thesis, she investigated the physiology of diving and thermoregulation in bottlenose dolphins. Dawn earned her B.S. in Biological Sciences with and emphasis in Marine Sciences from the University of Maryland.

Dawn is a physiological ecologist whose primary research interests include: 1) energetics and metabolism, 2) assessment of body condition, 3) diving physiology, and 4) anthropogenic impacts. She mainly studies killer whale energetics and the potential impacts of vessel presence on Southern Resident killer whale behavior and energetics. In order to assess this, she collects behavioral data from Southern Resident killer whales in the San Juan Islands using a focal follow approach. In addition, she conducts energetics studies on trained bottlenose dolphins to determine the metabolic costs associated with the performance of specific behaviors and changes in sound production that have been attributed to vessel disturbance. Her work will help managers understand the energetic impacts to killer whales caused by frequent exposure to vessels. Dawn's research also includes investigating Southern Resident killer whale habitat use patterns in their designated summer core critical habitat, muscle biochemistry to assess diving capabilities of local harbor porpoise and several killer whale ecotypes, contaminant transfer from female dolphins to their calves, and the potential impacts to killer whales consuming salmon during harmful algal blooms.

Wayne Perryman

Marine Mammal and Turtle Division, SWFSC



The focus of my research over the past decade or so has been to develop aerial photographic techniques that will allow us to accurately count the numbers of marine mammals in large aggregations, and to determine the size and shape of individual animals. The count data that we collect form an integral part of the abundance estimates for populations of dolphins in the eastern tropical Pacific and for seals and sea lions from the California Bight to the Aleutians. We have also demonstrated that measurements of sizes and shapes of whales (gray whales and right whales) can be used to track changes in fatness or condition of individuals in these populations. Most recently I have worked to developed small unmanned aerial systems (UAS) that can be used to collect aerial images of populations in regions where manned platforms are unavailable, too expensive or impractical for other reasons. We are finding that in some cases these

small UAS are more effective, cheaper and cause less disturbance than the manned platform alternatives.

I also lead the shore-based survey of northbound gray whale cows with calves from the Piedras Blancas Light Station. This long time series is providing clues into how short- (weather) and long-term (climate) environmental changes impact health and condition of this population.

Jessica Redfern

Marine Mammal and Turtle Division, SWFSC

Jessica has been using statistical models to address wildlife management questions for more than 15 years. She graduated with a bachelor's degree in mathematics from Colorado College and received her Ph.D. in environmental science from the University of California, Berkeley. She now leads the Marine Mammal Spatial Habitat and Risk Program at the Southwest Fisheries Science Center in La Jolla, California. This group of modelers, ecologists, and oceanographers uses ecosystem data to predict marine mammal distributions, identify critical habitat, conduct spatially-explicit risk assessments, and interpret trends in abundance. Jessica develops cetacean-habitat models and uses predictions from these models to assess risk to cetaceans. Her current projects include assessments of the risk of whale-ship collisions in the Pacific and Indian Oceans, identification of priority habitat for large whales in the eastern Pacific Ocean, and using oceanographic data to interpret trends in the abundance of dolphins that have been impacted by tuna purse-seine fishing in the eastern tropical Pacific.

Jeremy Rusin

Marine Mammal and Turtle Division, SWFSC

Jeremy is the Deputy Director of the Marine Mammal & Turtle Division (MMTD), Deputy Director of the Antarctic Ecosystem Research Division (AERD), and Leader of the Science Implementation, Planning, and Policy Program – which supports both divisions. Jeremy joined the SWFSC in 2005 and in addition to these roles, he provides scientific advice on US delegations to the Agreement on the International Dolphin Conservation Program and in a dolphin-safe labeling dispute in the World Trade Organization, advises MMTD and AERD on fulfilling their missions within administrative and operational constraints, and leads the SWFSC environmental compliance process for fisheries research. His research interests and expertise include International Fishery Management and Policy, and assessing direct and indirect effects of fisheries on protected species and their habitats.

Jeff Seminoff

Marine Mammal and Turtle Division, SWFSC

Jeffrey Seminoff is Leader of the Marine Turtle Ecology & Assessment Program and Director of the Stable Isotope Laboratory at the Southwest Fisheries Science Center. Since 1992 Jeffrey has been involved in ecological research and conservation of sea turtles in the Pacific Ocean. He received his Ph.D. from the University of Arizona in 2000, and was a Post-doctoral Fellow at the Archie Carr Center for Sea Turtle Research at the University of Florida from 2000 to 2002. Seminoff is the Past-President of the International Sea Turtle Society and hosted the 31st International Symposium on Sea Turtle Biology and Conservation in San Diego in 2011. He is Editor of the hard-cover book 'Sea Turtles of the Eastern Pacific' (University of Arizona Press) and was team leader for the most recent green sea turtle status assessments for the IUCN Red List of Threatened Species and the U.S. Endangered Species Act. Seminoff currently serves as the U.S. Delegate for the Scientific Committee of the Inter-American Convention for the Protection and Conservation of Sea Turtle, is the Executive Editor of the professional scientific journal Chelonian Conservation and Biology, and serves as Editor for the journals Endangered Species Research and Indian Ocean Marine Turtle Newsletter. Jeffrey's current research uses innovative approaches such as stable isotope analysis, biotelemetry, animal-borne imagery, and aerial surveys to elucidate the life history of sea turtles throughout the Pacific Ocean. His has authored over 100 peer-reviewed publications and his research has been featured in numerous popular magazines, and news outlets, as well as on the Discovery Channel, Animal Planet, PBS, and National Geographic Explorer. Jeffrey lives with his wife, Jennifer, and young children Quin and Graeson, in San Diego along with an assortment of pets including George, a 40-kg tortoise.

John Stein

Science and Research Director, NWFSC

John Stein is the Science and Research Director, overseeing the Northwest Fisheries Science Center's facilities in Seattle and five research stations in Washington and Oregon. Prior to that, he served as the Salmon Science Coordinator for the Center, and as the Director of the Environmental Conservation Division. He has authored over 130 publications and serves on many expert committees and scientific boards. For his achievements, he has been awarded with a Department of Commerce Bronze Medal and a NOAA Administrator's Award. He received his B.S. degree in Chemistry from Central Washington University and his Ph.D. in Organic Chemistry from the University of Washington.

Dr. Stein's primary research focus is on impacts of anthropogenic and natural toxic compounds (e.g., chemical contaminants and marine biotoxins) on fishery resources and protected marine species; how human activities affect watershed processes that support anadromous fish; the development and application of biological markers of chemical contaminant effects in fishes and marine mammals; and the application of these techniques in delineating relationships between chemical contaminant exposure and

effects in fishes and marine mammals. He is currently an affiliate faculty member in the University of Washington School of Aquatic and Fisheries Sciences and in the Department of Environmental and Occupational Health Sciences. He also currently chairs the Science Panel for the Puget Sound Partnership, was recently the Chair of the Science Board of the North Pacific Marine Science Organization (PICES), and is now the U.S. Delegate to PICES, a multinational organization of Pacific Rim countries. In addition, Dr. Stein is the federal co-lead for in establishing a Regional Planning Body for Marine Planning under the National Ocean Policy and serves as the team lead for NOAA's regional collaboration team in the west, NOAA West. He was also the lead for NOAA's Seafood Safety Program in response to the Deepwater Horizon oil spill.

Barbara Taylor

Marine Mammal and Turtle Division, SWFSC

In addition to leading the Marine Mammal Genetics Group, I actively participate in the IUCN Cetacean Specialist Group and chair the Marine Mammal Society's Conservation Committee. My first ten years in marine mammal research were spent studying harbor porpoise, harbor seals, bowhead whales and humpback whales, mostly in Alaska. Since receiving my PhD at the University of California, San Diego, my research has shifted from a field orientation to a quantitative approach. My research interests include genetics focusing on identifying units to conserve; population dynamics of small populations; conservation biology; demography; population viability analysis and decision analysis.

Current projects include:

- Participating in vaquita conservation science projects
- Performance testing of quantitative listing criteria for the Endangered Species Act
- Developing guidelines for using genetic data in taxonomy

My hobbies include tennis, kayaking, art (painting, printing, sculpture) and watching the Daily Show.

Manjula Tiwari

Marine Mammal and Turtle Division, SWFSC

Dr. Manjula Tiwari's first sea turtle project in 1991 was a survey of the remote beaches of the Nicobar Islands, India. The challenges and adventures of working with sea turtles at these remote beaches with the local people set the theme for many of her future projects. In 1994, she joined the Archie Carr Center for Sea Turtle Research at the University of Florida, where she earned a Master's Degree for her loggerhead research in Florida, Brazil and Greece, and a Ph.D. looking at density-dependent processes and green turtle hatchling production at Tortuguero, Costa Rica. With interests focused on sea turtle ecology and conservation, Manjula collaborates with sea turtle projects around the world. Her primary projects and research address a wide variety of issues ranging from

nesting beach ecology to the impact of fisheries on sea turtle populations in Africa, the Middle East, the South Pacific, and Southeast Asia. Manjula is a Conservation Scientist with NOAA's Marine Turtle Ecology and Assessment Program in La Jolla, California; the President of the US-based NGO Ocean Ecology Network; the Vice President of Chélonée, a French NGO dedicated to the research and conservation of sea turtles; the Regional Vice Chairman of the Southeast Atlantic for IUCN-Marine Turtle Specialist Group; an Advisory Committee member of the Indian Ocean Southeast Asia Memorandum of Understanding for Marine Turtles, the Founding Member and Scientific Advisor of Association pour la protection des Tortues Marines au Maroc (ATOMM) dedicated to sea turtle research and conservation in Morocco; and the Co-Chair of the South Atlantic Sea Turtle Network.

Cali Turner-Tomaszewicz

Marine Mammal and Turtle Division, SWFSC

Cali Turner Tomaszewicz is completing her Ph.D. in Ecology, Behavior & Evolution at the University of California San Diego's Biology department, with Dr. Carolyn Kurle. She has worked with the Marine Turtle Ecology & Assessment Program since 2008, where she focused on the habitat use patterns of, and researcher's ability to study, green turtles in the San Diego Bay in response to the gradual closure of a once-through-cooling power plant. This research was conducted as part of her Master's program in Marine Biodiversity and Conservation at the Scripps Institution of Oceanography, completed in 2009. Her current research utilizes humerus bones of dead, stranded turtles, and applies stable isotope analysis with skeletochronology to focus on life history, habitat use, and growth patterns of east Pacific green sea turtles (*Chelonia mydas*) and North Pacific loggerhead turtles (*Caretta caretta*). Specific objectives include determining the duration of the oceanic stage, or the "lost years," of these two turtle populations, and elucidating the age of settlement to neritic foraging habitats. Further applications of these techniques include determining residency duration time in discrete oceanic and neritic habitats, age-at-maturation, age distributions of location-specific populations, and the timing and variation of ontogenetic shifts in both location and diet. Prior to joining the MTEAP, Cali earned her B.A. in Environment, Economics & Politics from Claremont McKenna College in 2001 where she focused on the sustainable management of natural resources. Post-college work experiences include management and biological consulting, and science communication and outreach for a variety of non-profit organizations in Colorado and California.

Cisco Werner

Science and Research Director, SWFSC

Francisco (Cisco) Werner is the Director of NOAA's Southwest Fisheries Science Center in La Jolla, CA. His research have focused on understanding components of the marine environment through numerical models including the development of physical and biological models of marine ecosystems in the NW Atlantic, the US South Atlantic Bight and the North Pacific. He has studied the effects of physical forcing on lower trophic levels (nutrients, phytoplankton and zooplankton) and the subsequent effect on the structure, function and abundance of commercially and ecologically important species such as cod, scallops, menhaden and Pacific herring. He also contributed to the implementation of real-time circulation models in the Southeast region of the US as part of SEACOOS (the South-East Atlantic Coastal Ocean Observing System). Cisco earned his BSc in Mathematics from the University of Washington (UW, 1978) and an MSc and a PhD in Oceanography also from UW in 1981 and 1984. His professional appointments include being on the faculty at Dartmouth College, Thayer School of Engineering (1984-1989), the Skidaway Institute of Oceanography (1989-1993), the University of North Carolina at Chapel Hill, Marine Sciences Department (MASC) from 1993 to 2008 where he was the George and Alice Welsh Professor and served as Department Chairman from 2000 to 2007, and Rutgers University where he was the Director of the Institute of Marine and Coastal Sciences (IMCS). From 2002 to 2007 he served as the Chairman of the GLOBEC (Global Ocean Ecosystems Dynamics) International Scientific Steering Committee and co-Chaired the PICES MODEL Task Team. He is presently the co-Editor-in-Chief of Progress in Oceanography.

Chris Yates

Assistant Regional Administrator, Protected Resources Division, WCRO

Chris Yates is the Assistant Regional Administrator for Protected Resources in the West Coast Region of NOAA Fisheries. In this role he is responsible for the implementation of the Endangered Species Act and Marine Mammal Protection Act along the West Coast of the United States protecting and conserving populations of marine mammals and sea turtles. Chris has been with NOAA since 2001, and assumed this role in October 2013. Prior to this assignment, Chris served as the Assistant Regional Administrator of the Southwest Region. Previous assignments include serving as the International Whaling Commission Coordinator in Washington DC developing U.S. policy on international whaling, and leading the Protected Resources Division in the Pacific Islands Regional Office in Hawaii.

Chris grew up on a farm in Southern Wisconsin, received a Bachelor of Science degree from the United States Air Force Academy, and a Master of Science from the University of Florida. Chris, his wife Lindsay, and their daughter Julia reside in Long Beach, California.

Gina Ylitalo

Environmental and Fisheries Sciences Division, NWFSC

Gina has worked for the NWFSC since 1989. She has helped develop analytical methods for determining the types of environmental contaminants present in an environment. Her work addresses management concerns such as the effects or injuries to natural resources resulting from releases of hazardous chemicals. Gina received a group Bronze Medal from the Department of Commerce in 1992 for work performed for the Interagency Assessment Team in support of Operation Desert Storm. She earned a B.S. in biochemistry and an M.S. in chemistry from Western Washington University.

Gina is the Team Leader of the Biomonitoring Team of the Environmental Assessment Program. Her current interests include establishing links between exposure to chemical contaminants and potential health effects on marine mammals and fish. She also develops methods to analyze for new contaminants of interest in marine sediments and biota.