**Position Description:** The focus of this statewide position is to enhance outreach and research in aquaculture diseases and health management to relevant California stakeholders. This position will have a 100% UCCE appointment in Veterinary Medicine Extension within the Department of Medicine and Epidemiology (VME), School of Veterinary Medicine (SVM). The position will be based at the SVM, UC Davis (UCD) which is located in close proximity to large agricultural aquatic animal populations, other aquaculture production specialists in the College of Agricultural and Environmental Sciences (CAES), and aquaculture health faculty at the SVM. A DVM or equivalent degree is required, with graduate level training and/or board certification in an appropriate aquaculture-related discipline. The successful candidate will have expertise in aquaculture and husbandry practices with respect to the usage of antimicrobials in aquaculture, fish and shellfish disease diagnosis, epidemiology, and a demonstrated ability to communicate with various stakeholders including farmers, department of public health and other relevant state and federal agencies and consumers. This extension position will interact closely with UC and AES faculty, and UCCE Specialists and Advisors involved in aquatic animal health, food safety, food animal welfare, and risk communication. The successful candidate will develop an extramurally funded program using a multidisciplinary approach to increase and support California’s growing aquaculture industry.

**Justification:** Aquaculture is one of the fastest growing sectors for food production in the world. As global catches from wild fisheries have plateaued, reached maximum sustainable yields, or declined, global production of farmed fish, crustaceans, and mollusks have grown over 50-fold since 1950. Aquaculture is now expected to produce over half the fish consumed by humans worldwide and intensification of fish production is expected to surpass any growth in global wild fisheries in the near future. In California, a wide range of aquatic animals and plants are cultured for human consumption, including abalone, algae, bass, bluegill, carp, catfish, caviar, mussels, oysters, perch, salmonids, seaweed, sturgeon, tilapia, and more. Infectious diseases pose one of the most significant threats to aquaculture production and cost the industry millions annually. The growth of aquaculture, along with the increased international transport of fish and fish products, has facilitated the emergence and rapid dissemination of potentially devastating infectious disease agents. Furthermore, intensive aquaculture practices provide an environment favorable to epizootics of disease via high transmission rates due to proximity resulting in high losses. A trained veterinarian with expertise in aquaculture diseases and health management who will become an integral member of the existing aquaculture team with its existing expertise in production and sustainable farming is necessary to meet current and future growth needs for California producers of fish and shellfish. Recently, the need for such a position has also increased as a result of recently introduced federal laws requiring veterinary oversight through a valid veterinarian-client-patient relationship for dispensing of medically important antibiotics in feed.

**Extension:** Given California’s diverse aquaculture production systems (e.g. ornamental, food-fish, marine teleost, freshwater teleosts, invertebrates, organic, microcommercial, aquaponics, non-conventional and conventional systems) in combination with our complex demography, this position will be expected to provide statewide extension and outreach within the ANR network (advisors, specialists, AES faculty) and across the state to a wide range of stakeholders. Therefore, this specialist will develop and extend practical science-based information on aquaculture health managment to a variety of stakeholders including farmers, policy specialists and consumers. With respect to farmers, the specialist will focus not only on communication issues related to mitigation of aquaculture diseases (biosecurity, prophylaxis, etc), but also how to utilize available therapeutants and disease mitigation strategies judiciously to maintain health of aquaculture animals and sustainable production of these animals for human consumption. The specialist will act as a liaison between industry organizations, the University of California, and state and federal agencies. This specialist will collaborate with advisors and AES faculty on research and demonstration projects, help conduct workshops and speak at aquaculture meetings, develop web-based training courses, and produce lay and peer-reviewed publications.

**Research**: The specialist will develop an applied research program in areas linked to aquatic animal health, pathogen epizootiology, disease prevention, and novel therapeutics. Specifically, the specialist will emphasize research in developing and optimizing scientifically validated practical alternatives to the use of medically important antimicrobial drugs, including, but not limited to, the introduction of effective vaccines and good hygiene and management practices. The areas of emphasis will be based on a thorough evaluation of the needs of California’s aquaculture industry stakeholders. Publication outlets can include California Agriculture, ANR Peer Review sources, peer-reviewed veterinary and agricultural journals, and lay aquaculture producer publications.

**ANR Network:** The specialist position in aquaculture diseases and health management will interface with existing advisers and specialists in aquaculture, sustainable natural resources, endemic and invasive pests and healthy families and communities in addition to AES faculty working on areas applicable to population medicine. While the specialist will interface with the above experts, they will also provide visible leadership on major issues related to aquaculture health with respect to research, policy (e.g. state and federal) and outreach with the public.

**Network External to ANR:** This position will collaborate on research and extension projects with I&R faculty focused on aquaculture and population medicine, commodity organizations (California Aquaculture Association), and state and federal agencies such as NOAA, US Fish and Wildlife, USDA APHIS and FDA that have regulatory oversight of aquaculture in the USA.

**Support:** Administrative support for grants and contracts will be from Veterinary Medicine Extension and the SVM Department of Medicine and Epidemiology.

**Other support:** The specialist can apply for extramural federal (USDA) as well as UCANR and intramural SVM grants to support a research program in aquaculture diseases and health management. The Center for Food Animal Health (SVM) provides seed grants ($20,000/yr) twice a year for projects related to food animal health and production. In addition, the specialist will have the opportunity to collaborate with scientists at the Western Institute for Food Safety and Security (WIFSS-UCD) and its state and federal agency partners on food safety, water quality and related issues, and also with the California Animal Health & Food Safety Laboratory with respect to surveillance related to antibiotic resistance and food safety.

**Location:** This position will be located at the UC Davis School of Veterinary Medicine which will give the specialist access to large commercial aquaculture operations. However, since the aquaculture industry is scattered throughout the state, the specialist will spend a significant amount of time traveling throughout California.

**Developed and proposed by:** This position was initially drafted by Esteban Soto (Associate professor of Aquatic Animal Health, Dept. of Medicine and Epidemiology) and John Angelos (Chair, Dept. of Medicine and Epidemiology) with input from AES faculty, external stakeholders, and Rob Atwill (Director of Veterinary Medicine Extension, SVM).