**Position Title:** CE Specialist, Avian Management.

**Position:** The CE Specialist will serve as an expert on avian species that conflict with, are impacted by, or benefit human activities. Requirements include a Ph.D. in wildlife management, natural resource management, or a closely related field, with an emphasis on avian species. Field experience and/or course work in human-wildlife conflict, Integrated Pest Management (IPM), and wildlife conservation are desirable.

The Avian Management Specialist will conduct applied field and lab research designed to develop management tools for mitigating human-avian conflict while also promoting avian conservation and benefits to people. Key to the position is the development of extension outreach methodologies that lead to adoption of practices that reduce the risks from avian pests and disease vectors while enhancing benefits to the farmer, the food supply, people, and the environment through avian conservation. The Avian Management Specialist will be supported by the Department of Wildlife, Fish, and Conservation Biology (WFCB) within the College of Agricultural and Environmental Sciences (CAES) at UC Davis. The Specialist will network with AES faculty, CE Specialists, and Advisors throughout the state to build a collaborative network that will maximize their impact.

**Justification:** The high economic value of California agriculture, combined with a broad diversity in commodities, makes controlling damage caused by avian species imperative, yet quite challenging. For example, a recent study investigating the economic damage caused by avian and rodent pests to just 22 commodities across 10 counties in California indicated a loss of $168–$504 million annually. Other studies have shown the extensive negative impact of birds to wine grapes (>$49 million lost annually) and nuts (9.6% loss in profit when present) in California. Simultaneously, recent concerns that birds are spreading foodborne diseases such as *Salmonella* and pathogenic *E. coli* have increased pressure on fresh-produce growers to engage in environmentally and economically costly actions of unknown efficacy to mitigate bird intrusion and enhance food safety. In urban environments, avian species are causing significant conflicts via disease transmission (e.g., avian influenza, histoplasmosis), defacement of property (e.g., bird droppings on buildings and landscapes), and passenger safety through bird-aircraft collisions. Finally, the need to manage birds in natural resource areas is increasing, given predation concerns on sensitive species (e.g., raven predation on desert tortoises and sage grouse nests) and the increasing impact of wind and solar farms on avian species themselves.

At the same time, birds are known to provide growers and others with economic benefits that are rarely explicitly managed but represent promising win-wins for conservation and agricultural livelihoods. For example, some raptor species may be used to reduce or disperse damaging rodent and bird populations, and many passerines are known to significantly reduce insect pest populations. The Avian Management Specialist would assist in the development of new tools for mitigating human-avian conflict, maximizing benefits, and enhancing bird conservation across all environments.

There is a decline and, for the most part, complete lack of human-wildlife (most notably with avian species) conflict expertise previously provided by other state agencies and institutions (e.g., California Department of Food and Agriculture [CDFA], California Department of Fish and Wildlife [CDFW], California Department of Pesticide Regulation [CDPR], California Department of Public Health [CDPH]). As such, there is a strong need for a state-wide continuum in human-wildlife conflict expertise. Currently, there is one Specialist at UC Davis (Dr. Baldwin) and one Advisor in southern CA focused on human-wildlife conflict (Dr. Quinn, IPM Affiliated Advisor for urban areas). This proposed position will provide statewide leadership on avian management, filling a huge void within California. This position will support ANR Strategic Initiatives in Endemic and Invasive Pests and Diseases, Sustainable Food Systems, and Sustainable Natural Ecosystems.

**Extension:** The Extension Specialist is expected to develop and deliver information on how to manage human-avian conflict using existing knowledge and knowledge derived from his/her research program. Multiple detailed needs assessments were published by Dr. Baldwin and USDA APHIS Wildlife Services personnel that can serve as an initial foundation to identify key agricultural issues and prioritize projects. As such, the incumbent’s extension program is expected to support a diverse clienteles’ needs, while providing programming to target audiences through print and popular media, social networks, public presentations, field days, and web-based media.

The primary multipliers for CE Specialists are Advisors. Programmatic, training, and educational support will be provided to all impacted Advisors in support of their programs. Other clientele groups include the crop protection industry, commodity group leaders, and government organizations and NGOs. The recent success of Drs. Baldwin and Quinn clearly demonstrate the need, the value, and the appreciation CE Advisors, Pest Control Advisors, farmers, and regulatory officials have for wildlife damage issues.

**Research:** The Avian Management Specialist will be expected to conduct collaborative and independent applied research. This research will be issue based, directed toward pragmatic solutions to human-avian conflict problems. Whenever possible, the Specialist is encouraged to use field research opportunities for hands-on teaching through CE Advisor collaboration. Examples of key research areas will include mitigation of bird damage to agricultural, natural resource, and urban environments; mitigation of bird-aircraft hazards; and use of avian species to mitigate other pest concerns, thereby increasing conservation efforts. Outputs from research will include peer-reviewed journal articles, *Cal Ag* articles, technical reports, articles for newsletters, special publications such as identification and pictorial guides, and web-site posting, journals, and blogs.

**ANR Network:** The Avian Management Specialist will work closely with faculty (e.g., Drs. Eadie, Karp, Van Vuren) and the Extension Specialist (Dr. Baldwin) within WFCB, as well as other faculty and Extension Specialists (e.g., Drs. Atwill, Pitesky) within the UC system. Early research opportunities could include assisting Dr. Karp in addressing food safety concerns associated with, as well as pest control services provided by, birds in agronomic crops; research with Dr. Baldwin on the potential impact of raptors on rodent control; and assisting Dr. Pitesky with an assessment of the impact that raptors have on pasture poultry. Advisors will serve as important collaborators and multipliers of applied research outcomes from the Specialist’s program. Drs. Baldwin, Van Vuren, and Quinn have little to no expertise with avian species, leaving a huge void in research and extension efforts focused on this taxon. Indeed, existing bird management strategies are rarely evaluated given very few scientists globally that focus on this economically important issue.

**Network External to ANR:** The Specialist is expected to network with both academic (e.g., WFCB and other pertinent UC and CSU departments) and non-academic clientele and serve as an educator at workshops and symposia (e.g., PAPA, CAPCA, Vertebrate Pest Council [VPC], EIPD initiative and similar events). The Specialist will actively network and participate with other agencies and groups involved in human-avian conflict issues and policy (CDFW, CDFA, CDPR, CDPH, USDA APHIS Wildlife Services, US EPA, County Agricultural Commissioners, commodity boards, wildlife pest control operator’s associations, and others) through both extension and research activities.

**Support:** WFCB and CAES will provide administrative support and funding for general programmatic needs and travel. WFCB will also provide an office, laboratory, phone, internet access, and IT support.

**Other Support:** Financial support will be competitively available from various sources including the CDFA Vertebrate Pest Control Research Advisory Committee (VPCRAC), Federal and Regional IPM grants, commodity boards, CDPR, CDFA grants, and gifts in support of research. The VPC has agreed to provide additional startup assistance ($5,000­–$10,000) to support this position.

**Location:** WFCB, UC Davis. This location provides laboratory and office space required for the applied research program. A related Specialist and faculty are on site to support and mentor.

**Developed and proposed by:** Position developed and proposed by WFCB and CAES, and is considered a high priority position by the Pest Management and Wildlife Program Teams, as well as the Wildlife Working Group. Numerous Advisors and Specialists have provided substantial input into this position description. Other wildlife experts within UC were also instrumental in its development. This position is strongly supported by a diverse set of stakeholders including agricultural (California Pistachio Research Board, California Specialty Crops Council, Lodi Winegrape Commission, Napa Valley Grape Growers), conservation (The Nature Conservancy, Wild Farm Alliance), and urban groups (Pest Control Operators of California). They reviewed and contributed to this proposal. Additional assistance was provided by VPCRAC and the VPC. The participation of such a diverse set of stakeholders clearly illustrates the importance of this position to almost all UC ANR clientele groups.