

California Fish and Game Commission Certification of Environmental Document and Findings of Fact as a Lead Agency Pursuant to the California Environmental Quality Act and the Commission's Certified Regulatory Program

The California Fish and Game Commission (Commission) has prepared this Certification of Environmental Document and Findings of Fact to comply with the California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.; Cal. Code Regs., tit. 14 §§ 15000 et seq.),¹ and the Commission's certified regulatory program (CRP) as approved by the Secretary for the California Natural Resources Agency. (Pub. Resources Code § 21080.5; CEQA Guidelines, § 15251, subd. (b); Cal. Code Regs., tit. 14, § 781.5). The Commission undertakes this certification as a "lead agency" for purposes of CEQA. (Id., § 21067, CEQA Guidelines, § 15367.) The Commission is a lead agency because of the explicit statutory direction set forth in Fish and Game Code section 3004.5 to the Commission to promulgate regulations, no later than July 1, 2015.

Consistent with Fish and Game Code section 3004.5,² the proposed project consists of implementing the statutory mandate to require the use of nonlead projectiles and ammunition for the take of wildlife statewide no later than July 1, 2019 and, in whole or in part, earlier if practicable. Specifically, the Proposed program includes addition of section 250.1 to Title 14, amendment of existing sections 311, 353, 464, 465, 475, and 485, as well as repeal of section 355 of Title 14 of the California Code of Regulations. These proposed changes to Title 14 constitute the Proposed Program for the purposes of CEQA, the Commission's CRP, and this Certification and Findings of Fact.

A. Public Process

Public disclosure and informed decision making are priorities under CEQA. The Commission has undertaken extensive outreach efforts to inform the Proposed Program's development and, in addition, is concurrently complying with the public notice and review processes required by the Administrative Procedure Act (APA) (Gov. Code, § 11340 et seq.)

In terms of required environmental review pursuant to CEQA on the Commission's behalf, the California Department of Fish and Wildlife (Department) prepared a Draft Environmental Document (State Clearinghouse No. 2014102083) (Draft ED). Specifically, CDFW circulated a Notice of Completion (NOC), which began a 47-day public review period on the Proposed Program and Draft ED beginning January 7, 2015 and ending on February 23, 2015. The NOC was distributed to the public, including any interested local, state, and federal agencies, and other interested parties, through direct mailing, e-mailing, posting at county clerks' offices, publication in a newspaper of general circulation (the Sacramento Bee) on January 24, 2015, and, along with the Draft ED, posting on the Commission's website

¹ The Guidelines for the implementation of CEQA are found in the California Code of Regulations, title 14, section 15000 et seq., and will hereinafter be referred to as "CEQA Guidelines."

² All unspecified "section" references refer to the Fish and Game Code unless otherwise specified.

(http://www.fgc.ca.gov/regulations/2015/index.aspx#250_1) as well as CDFW's website (<http://www.wildlife.ca.gov/Notices>). The NOC and Draft ED were also made available for public review at CDFW's Wildlife Branch and the Fish and Game Commission office.

Importantly, on the Commission's behalf, CDFW received a broad spectrum of comments regarding the Proposed Program and Draft ED during the CEQA public review period. Some of those comments concerned environmental issues that fall within the purview of CEQA. Many others did not. For example, the CDFW received various comments objecting to or in support of, or making specific recommendations related to Assembly Bill 711 or the Proposed Program. Some of these comments relate solely to the merits of requiring nonlead ammunition, a decision that is outside the scope of the Commission's rulemaking or CEQA compliance, all without mention of any environmental issue subject to CEQA or the Commission's CRP.

The Department, on the Commission's behalf, reviewed and considered all comments received including but not limited to those explicitly directed at the Draft ED or the Proposed Program's environmental impacts. The Final ED listed those comments and included individual responses to all comments received: (1) specifically directed to the Draft ED; (2) addressing the Proposed Program's environmental impacts; or (3) raising significant environmental points. Based on the comments received, the Final ED's responses to comments demonstrate the Draft ED included good faith and reasoned analyses, and served the disclosure purpose that is central to the CEQA process.

The comments received underscore the differences of opinion regarding the merits of Assembly Bill 711, the likely availability of nonlead ammunition, and the environmental effects of lead and nonlead ammunition. The merits of Assembly Bill 711 itself are outside the scope of both the Commission's current process as well as CEQA review. Although commenters provided conflicting opinions regarding the likely availability of nonlead ammunition and the environmental impacts of phasing-in the nonlead ammunition requirement, no commenters provided substantial evidence necessitating a change to the Draft ED's conclusions that the Proposed Program's impacts will be less than significant. After reviewing the comments and responses to comments, the Commission has concluded that no further modifications to the Environmental Document or the Proposed Program are necessary.

B. Scope of Findings

Specifically as to environmental impact reports, findings are required by each "public agency" that approves a "project for which an environmental impact report has been certified which identifies one or more significant effects on the environment." (Pub. Resources Code, § 21081, subd. (a); CEQA Guidelines, § 15091, subd. (a); see also Pub. Resources Code, § 21068 (significant effect on the environment defined); CEQA Guidelines, § 15382 (same).) In the present case, the Draft ED and Final ED, which together constitute the entire Environmental Document for the purposes of the Commission's compliance with CEQA (see generally CEQA Guidelines, § 15132), conclude that the Proposed Program will not result in one or more significant environmental effects of the project prior to consideration of avoidance or mitigation measures.

Nonetheless, although not legally required by CEQA the Commission has prepared and adopts these findings. These findings provide consistency with CEQA's mandate that no public agency shall approve or carry out a project for which an EIR, specifically, has been certified which identifies one or more significant effects thereof unless the agency makes one or more of the following findings:

- (1) Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment;
- (2) Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that agency;
- (3) Economic, legal, social, technological or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the EIR.

(Pub. Resources Code, § 21081, subd. (a); CEQA Guidelines, § 15091, subd. (a).)

These findings are also intended to comply with the requirement that each finding by the Commission be supported by substantial evidence in the administrative record of proceedings, as well as accompanied by a brief explanation of the rationale for each finding. (Id., § 15091, subds. (a), (b); see also Discussion following CEQA Guidelines, § 15901.) To that end, these findings provide the written, specific reasons supporting the Commission's decision under CEQA to adopt the Proposed Program.

C. Findings of Fact

On the Commission's behalf, the Department prepared an "Initial Study" consistent with CEQA, issued an NOP, and conducted a scoping meeting to solicit input about the scope of the required analysis in the Environmental Document. That effort and the related information are described in the Draft ED. (See, e.g., Draft ED at 1:14 – 1:15, Draft ED Appendices B (Notice of Preparation and Initial Study Checklist), C (Scoping Report), D (Scoping Meeting notice), E (Materials Provided During Scoping Meeting), and F (Written Comments Received During Scoping)). An important purpose of the Initial Study and the related scoping effort under CEQA was, among others, to focus the Environmental Document on the effects determined as an initial matter to be significant or potentially significant, and to identify effects determined to not be significant. (See generally CEQA Guidelines, § 15063, subd. (c).)

As part of the Initial Study and scoping effort, the Department, on the Commission's behalf, determined in the Initial Study that the Proposed Program's implementation would result in various less-than-significant impacts, or no impacts, that need not be addressed further in the Draft ED. These impact areas included aesthetics, agriculture and forestry resources, air quality, cultural resources, geology/soils, greenhouse gas emissions, hydrology/water quality, land use/planning, mineral resources, noise, population/housing, public services, transportation/traffic, utilities/service systems, and the mandatory findings of significance (see Draft ED at 3:2; Draft ED Appendix B-3). However, during the scoping period, CDFW received

comments expressing concern that the Commission's adoption of the Proposed Program could affect water quality. As a result of the comments received during the scoping period, the Draft ED considered the Proposed Program's impact to water quality. With that modification, and after considering the Initial Study and scoping process, the Commission finds that adoption of the Proposed Program will result in less than significant or no impacts to aesthetics, agriculture and forestry resources, air quality, cultural resources, geology/soils, greenhouse gas emissions, land use/planning, mineral resources, noise, population/housing, public services, transportation/traffic, utilities/service systems, and the mandatory findings of significance.

Shifting to the impacts considered in the Draft ED and Final ED, the Commission again notes that CEQA does not require findings for impacts deemed less than significant prior to mitigation. Yet, in the interest of comprehensive findings, the following discussion addresses the impacts the Commission expects, based on the Draft ED and Final ED, to be less-than-significant without mitigation as a result of the Proposed Program. Related discussion also appears in the Environmental Document. Nothing more is required for these findings or for CEQA generally.

1. BIO-1

Impact: Impacts to species from reduced lead and increased other metals (primarily copper) in the environment.

Finding: The Proposed Program would result in less than significant impacts from increases in copper in the environment and, also, beneficial impacts to species from reduced lead in the environment.

Explanation: As set forth in pages 3:7 to 3:9 of the Draft ED, lead has long been known to have an adverse impact on a wide range of organisms. (EPA, 2011.) As lead is found in varying amounts in all metals and has been deposited into the environment for many years through a variety of sources, lead is also released into the environment from big-game, upland game, nongame mammal hunting, and the other minor cases in which take of wildlife with lead ammunition occurs.

Lead poisoning from ingesting spent shot has been documented in waterfowl, terrestrial birds (Fisher et al., 2006.), upland game species such as pheasants, dove, quail, grouse and wild turkeys, and special status raptors such as bald and golden eagles, peregrine falcons, and California condors. (Pain et al., 2009.) Incidences of lead poisoning in bald and golden eagles in the Pacific Northwest have been shown to correspond with the period following deer and elk hunting seasons and also with the subsequent control of nongame species such as coyotes during the winter (Stauber et al., 2010.) and in a study of mortality factors in free-ranging California condors between 1992 and 2009, lead toxicosis was found to be the most important cause of death for juvenile and adult birds. (Rideout et al., 2012.)

Although the benefit of removing ammunition as a source of lead in the environment is difficult to quantify, decreasing the amount of lead deposited into the environment from any source is

expected to be beneficial for wildlife species, including special status raptors. (Kelly et al., 2011; Kelly et al., 2014b.)

The anticipated increase in use of copper and other metals for hunting of game will result in additional levels of these metals being left in the field. CDFW is unaware of any scientifically based information to indicate that these metals in the field have had, or will have, any detectable effect on the environment, which is why they are proposed as alternatives to lead ammunition.

Thus, as compared to existing conditions, the Proposed Program is expected to benefit wildlife species, including listed and special status species such as bald and golden eagles, by reducing the potential ingestion of lead from carcasses and gut piles from animals killed with lead ammunition. The Commission finds that the Proposed Program will result in a less than significant impact to species from reduced lead and increased other metals (primarily copper) in the environment.

2. BIO-2

Impact: Impacts to ecosystems if reduced hunting activity occurs and that reduction contributes to overpopulation.

Finding: The Proposed Program would result in less than significant impacts.

Explanation: As set forth in the Draft ED at pages 3:9 to 3:10, the Commission has historically, and continues to, regulate hunting conservatively such that there are no game species for which hunting levels limit or control their population. The foundation of game management emphasizes a "harvestable surplus" (Leopold, 1933) of managed species as a renewable resource. Consequently, populations of game species are regulated by the environment they experience during their life history with hunting representing one of many mortality factors and being compensated for by annual recruitment of new individuals into a population; or being completely irrelevant to annual population fluctuations for some species.

The species most likely to result in localized overpopulations in the absence of hunting is elk that inhabit areas where expansion into wildland is limited or restricted (e.g., Grizzly Island or the Owens Valley). Were such overpopulations to occur, translocation or depredation hunts could be used to alleviate the problem and no significant change in elk numbers is anticipated to occur. Additionally, wild pigs could increase on public lands if there were a significant decline in hunting activity. However, as most of the wild pig populations in California already exist in areas where lead ammunition is prohibited (condor range), no significant change in wild pig numbers is anticipated to occur as a consequence of the lead ammunition prohibition.

For the reasons above, the Commission concludes that there will be a less than significant impact to ecosystems if reduced hunting activity occurs and that reduction contributes to overpopulation.

3. BIO-3

Impact: Reduced habitat due to reduced revenue from hunting.

Finding: The Proposed Program would result in less than significant impacts from reduced habitat due to reduced revenue from hunting.

Explanation: There is no substantial evidence to indicate that the Proposed Program will result in a decrease in participation or revenue will occur that would result in a significant decrease in habitat management work or ecosystem function. In fact, as summarized in the Draft ED, the 2008 nonlead ammunition requirement in the "condor range" did not have such an effect and it applied to approximately 1/5th of the state. Nor did the nonlead ammunition requirement for waterfowl hunting result in any apparent decline in waterfowl hunting.

However, assuming hypothetically that there is a significant reduction in hunting, the impact to habitat due to reduced revenue from hunting would remain a less than significant impact. Pages 3:10 to 3:12 of the Draft ED describe the process by which CDFW receives federal grant funds derived from the sale of ammunition and firearms nationally through the Wildlife and Sport Fish Restoration Program (commonly known as the Pittman-Robertson or "PR" Program).

Incremental changes in license sales are unlikely to impart much change on California's PR allocation. Any change in the amount allocated to the state is much more likely to be a result of changes in the collection of PR excise tax funds from firearms and ammunition equipment sales across the country. It is notable that in 2008, the year that the condor range nonlead requirements went into effect, license sales dipped by 2.6 percent, but California's allocation of PR funds increased by 16 percent, or by \$1.4 million. The following year the state's allocation increased another 10 percent, or by \$1 million.

The USFWS has projected a downturn in the total allocation of PR funding largely driven by the moderation in firearms and ammunition sales starting in 2014 across the country. The overall sum total of funds collected across the country, from which each state receives an apportionment, is likely to impart a larger influence on PR funding for the state of California than any change in total hunting license sales. Revenues from license sales and PR funds are not anticipated to decline by a magnitude sufficient to significantly impact state habitat management programs that support hunting recreation.

Although unlikely to occur for the reasons stated above and in pages 3:10 through 3:12 of the Draft ED, even if the Proposed Program resulted in a reduction in hunting license and tag sales, and that reduction resulted in reduced revenue to CDFW, there would be no significant impact on game management and wildlife area programs, or the capability to gather the monitoring data needed to develop annual hunt programs. Such a decline in revenue would likely affect deer hunters and hunters of the smaller upland game species (e.g., quail and dove) more so than other hunters. Should a reduction occur, CDFW would need to re-prioritize available funding and programs to be most efficient with the funds available. In addition, habitat improvement projects implemented by CDFW typically are only a portion of the total project cost for larger scale projects (e.g., restoration of the Rush Fire area in Lassen County). Finally,

many ecosystem restoration or enhancement projects are funded by other agencies or private grants in partnership to provide sufficient funding to complete and monitor the project.

For the reasons set forth above, as compared to the existing conditions, the Commission finds that the Proposed Program will result in less than significant impacts to CDFW's ability to participate in ecosystem management and habitat improvement efforts.

4. BIO-4

Impact: Impacts from wounding.

Finding: The Proposed Program would result in less than significant impacts related to wounding.

Explanation: This Draft ED considers whether significant impacts may occur to hunted species (big-game and upland game) as a result of the proposed action. The existing scientific information suggests that wounding rates for firearms while waterfowl hunting are approximately 20 percent (USDI, 2013); those for upland species (specifically doves) are approximately 14-15 percent (Pierce et al., 2014); and those for big-game species range from 0-14 percent (Aebischer et al., 2014; Fuller, 1990). Two studies (Batha et al., 2010; Knott et al., 2009) specifically compared the performance of copper and lead bullets in big-game hunting. Both studies concluded that copper bullets are equally effective as lead bullets in terms of accuracy and lethal performance, leading to the conclusion that wounding rates for big-game species should not increase due to the use of nonlead ammunition. Aebischer et al. (2014) reported similar results regarding accuracy and lethal performance with a 3 percent wounding rates on a study of four managed wild deer species in the U.K.

Wounding rates are ultimately the product of many factors, including shooter proficiency, caliber (or shot size) used, shot distance, and species being hunted. (Aebischer et al., 2014.) Hunters can (and do) decrease the probability of wounding an animal by practicing with their weapon(s) and carefully choosing their weapon type, caliber (or shot size and choke for shotguns), and shot distance. The available data indicate that, as compared to existing conditions, there will be no significant changes in wounding rates by requiring hunters to use nonlead ammunition to take wildlife as opposed to standard lead bullets (or shot). As a result, the Commission finds that the Proposed Program would result in less than significant impacts related to wounding.

5. HYD (WATER QUALITY)-2

Impact: Impacts to species from reduced lead and increased other metals (primarily copper) in the environment.

Finding: The Proposed Program would result in less than significant impacts from reduced lead and increased other metals (primarily copper) in the environment.

Explanation: As set forth on pages 3:20 and 3:21 of the Draft ED, copper is a ubiquitous, essential element considered to be both a micronutrient and a toxin. (EPA, 2011.) Compounds

such as copper sulfate have been widely used in the United States since the 1700s as a fungicide, algicide, root killer, and herbicide. (NPIC, 2014.) Copper concentrations are usually elevated in the vicinity of human activities where compounds such as copper sulfate are widely and intensively used in confined geographic areas to control nuisance species of aquatic plants and invertebrates, diseases of terrestrial crop plants and ectoparasites of fish and livestock. (Eisler, 1998.)

Copper impacts on water quality depend on the amount deposited, the form in which it is deposited, the type of water it is deposited in ("soft" water is more likely to result in copper toxicity issues than "hard" water) and the species which consumes the copper. Copper deposited in the environment from hunting activities most likely will be in the form of elemental copper (from solid copper or other materials coated with copper) or from copper in an amalgamation of other materials (frangible bullets).

The prohibition on the use of lead for waterfowl hunting in California was phased-in with the start of the 1987-1988 hunting season, taking effect nation-wide starting with the 1991 hunting season. A variety of shot types and materials have been approved by the USFWS as nontoxic, including copper-clad iron, tungsten-iron-copper-nickel and other materials coated in copper, nickel, tin, zinc chloride, zinc chrome and fluoropolymers. (USFWS, 2014.) Since 1991, copper has been extensively deposited in waterways in the form of spent shotgun pellets without any detectable increase in the levels of copper in those waters or documented negative impacts to wildlife species inhabiting those waterways. Most of the increased deposition of copper resulting from the proposed action will be on upland or forested habitats where water is not a dominant feature of the environment.

Because increases in copper will not be in the form that causes water quality issues (solid copper v. "ionic" copper), extensive research was conducted leading to copper's designation as a non-toxic alternative to lead for waterfowl hunting, and subsequent to that designation no negative impacts to water quality or wildlife and wildlife habitats has been suggested or reported, the Commission concludes that the environmental impacts associated with reduced lead and increased copper deposition from hunting activities will be less than significant as compared to existing conditions.

6. HAZ-1

Impact: Increased risk of ignition and associated risk of loss, injury, or death from wildfire.

Finding: The Proposed Program would result in less than significant impacts due to increased risk of ignition and associated risk of loss, injury, or death from wildfire.

Explanation: Evaluating CALFIRE (2012) wildfire reports of 4,655 wildfires, none identified "shooting" of any kind as a cause. (Draft ED at 3:16.) Nonetheless, it is possible that shooting could have been folded into the miscellaneous category. (Id.) Applying anecdotal data on wildfires experienced in Idaho and Utah and extrapolating that data to the CAL FIRE causal data indicates that from 20-235 of the total 4,655 fires in 2012 could be attributed to "shooting" events. (Id.) While it is possible that some late season fires may result from firearms used

Explanation: Conflicting information regarding market availability and overall cost has been presented by proponents and opponents of the law and has informed the Commission's development of the phasing of the proposed program. (Draft ED at 3:25.) For example, one study, sponsored by the NSSF (Southwick Associates, 2014), predicts that hunting participation in California may drop by as much as 36 percent as a result of the proposed regulations. (Id.) However, another study sponsored by Audubon California, Defenders of Wildlife, and the Humane Society of the United States (Thomas, 2014) concluded that hunting participation would not be substantially affected because nonlead ammunition is already commercially available and a two year transition period will be adequate to allow manufacturers to adjust for the anticipated increase in demand. (Id.)

Research conducted by CDFW on behalf of the Commission indicates that while many different nonlead bullets and cartridges have been certified by the Commission and are advertised for sale by different manufacturers, many are actually limited in availability for purchase either in sporting goods stores that typically sell ammunition or from on-line vendors. (Draft ED at 3:25.) Furthermore, bullets and cartridges for calibers considered to be "uncommon" are essentially unavailable for purchase by California hunters. (Id.) Even if nonlead ammunition is available for purchase, the Commission acknowledges that ammunition may not be available to meet the volume of demand created by Fish and Game Code section 3004.5. (Id.) Additionally, costs are often higher for nonlead ammunition of all calibers. (Id.) Finally, according to NSSF sponsored outreach (Southwick Associates, 2014), ammunition manufacturers have indicated they will not be sufficiently increasing production of nonlead ammunition to meet the demand the legislation will create in California. (Id.) Interestingly, the same analysis illustrates California's demand for new nonlead products, which presumably would result in new markets. (Southwick Associates, 2014.)

Given the divergent viewpoints regarding the commercial availability of nonlead ammunition, the Initial Study concluded that potentially significant impacts to recreation may occur as a result of: 1) requiring hunters to use nonlead ammunition that may not be available for purchase, which, in turn, may reduce hunting activity in the state; 2) hunters choosing not to participate in their chosen recreational activity due to higher costs – either through purchasing more expensive nonlead ammunition or purchasing new guns, barrels or chokes – to comply with the new regulatory requirements. Consequently, CDFW, on the Commission's behalf, undertook additional analysis in the Draft ED to evaluate the potential for such impacts.

Upon initial consideration, changes in the ammunition performance and the availability of hunting opportunities may affect recreational hunting by substantially increasing costs and/or difficulties in acquiring the required nonlead ammunition. A reduction in the level of hunting activity, as determined by the numbers of hunters and/or the number of hunt days, seemingly could reduce hunting expenditures to a range of businesses during a hunt trip and to ammunition manufacturers and retailers.

However these incremental costs appear less substantial when put in context of total annual expenditures, as well as hunters' previous investment in outdoor sports equipment. Current hunter spending on ammunition is about four percent of total equipment and trip

while sport hunting, it is more probable that most of these fires (early and late season) are a result of target shooters who generally fire many more rounds than hunters.³

A recent laboratory/controlled conditions study (Finney et al., 2013) concluded that steel jacketed (which are not legal for hunting big game in California) and solid copper bullets fired at an oblique angle into a steel plate caused ignition in oven-dried peat in a steel trap under hot and dry conditions. However, there is no evidence that the study's conditions were typical of hunting conditions in California. (Draft ED at 3:16.) The study was conducted under controlled conditions, such that the ricocheting fragments/bullets would land in a "laboratory apparatus" a metal/steel bin, or "bullet trap" containing 4" of oven-dried peat moss, traveling a distance that appears to be between 1-2 feet.

While some of the conditions associated with higher ignition risk occur in some of California's wildlands, it is unlikely that the combination of deep dry peat moss, high temperatures and extremely low humidities will occur simultaneously during the time of year where most big game hunting occurs in California. There is also no evidence that firing into an obliquely angled steel plate represents typical hunting conditions. Moreover, the study pertained only to rifle bullets and not to nonlead loads fired from shotguns. The smaller size of the projectile (shotgun pellets) and the low muzzle velocities associated with this weapon type may mitigate against the heating identified with nonlead rifle bullets. In addition, most shotgun shells are constructed to encase the pellets in a plastic "wad" to minimize deformation against the barrel, and thus in addition to lower velocity, less metal to metal contact would result in lower heat generation from the projectiles moving through the barrel. Finally, the target zone (mainly slightly to severely above a perpendicular plane) for game animals taken with shotguns, most commonly birds that have flushed, would serve to slow down projectile speeds and allow more time for cooling before hitting any ground based ignition sources.

Due to the conditions under which nonlead ammunition is used while sport hunting and the relatively low incidence of wildfire than can realistically be attributed to sport hunters, the Commission finds that the potential increase in the frequency of wildfires is considered to be less than significant as compared to existing conditions.

7. REC-1

Impact: Impacts to hunting activities due to the increased cost or unavailability of nonlead ammunition, which impacts result in direct or indirect physical changes to the environment including changes in land uses or reduced maintenance of habitat areas.

Finding: The Proposed Program would result in less than significant impacts due to the increased cost or unavailability of nonlead ammunition, which impacts result in direct or indirect physical changes to the environment including changes in land uses or reduced maintenance of habitat areas.

³ The majority of hunters limit their shooting to attempting to take animals, whereas target shooters have no reason to similarly limit shots fired and their purpose for shooting is to shoot.

expenditures. (USFWS, 2011a.) Page 3:24 of the Draft ED demonstrates that the projected increases in compliance costs would now comprise 7 percent of the total annual expenditure per hunter. The Draft ED also demonstrates why consideration of a hunter's total annual expenditure investments in durable hunting equipment diminishes the likelihood that cost increases of the anticipated magnitudes would be substantial enough for hunters to greatly reduce their participation in hunting.

Nonetheless, if the Proposed Program causes hunters to decrease their number of hunt days this would result in decreased hunter spending on equipment and ammunition in preparation for hunting, on fuel and food while en route to hunting lands, and on food, additional equipment, and accommodations in the vicinity of the hunt site. (Draft ED at 3:25.) Any reduction in hunter trip and equipment expenditures would tend to reduce the subsequent rippling of that spending throughout the local and state economy, potentially impacting total economic output, jobs, and tax revenues. (Id.) Although socioeconomic impacts are not cognizable under CEQA, the Draft ED considered the potential economic ripple affect with an eye towards indirect effects, such as changes in land uses or blight resulting from reduced revenue, which land use changes or blight would be physical changes in the environment. (Id.) In addition, if the reduction in hunting activity is associated with a reduction in license and tag/stamp sales, then that reduction in sales decreases revenue to CDFW, which revenue contributes to funding habitat management on CDFW lands (addressed above in Impact BIO-3 and found to be less than significant).

Because of existing uncertainty over the future availability and cost of nonlead ammunition, CDFW, on the Commission's behalf, evaluated a range of potential reductions in hunting activity: 5 percent, 10 percent, and a drop of 13 percent based on the report by Southwick Associates. (Southwick Associates, 2014.) To determine the most reasonably foreseeable percentage change in hunting activity, CDFW, on the Commission's behalf, considered available data illuminating the extent to which incremental cost increases for, or decreased in availability of, nonlead ammunition, new firearms and/or recalibration costs will change the level of hunting activity. This data includes the condor range experience from 2008 to the present, the response to federally mandated requirements for using nonlead ammunition for waterfowl, and the price elasticity of hunting demand. CDFW also surveyed research on the determinants of the demand for hunting that examined the price elasticity of demand, income elasticity of demand, and how socio-demographic characteristics of the population relate to hunting demand.

After considering the data summarized above along with the analysis in the Standardized Regulatory Impact Assessment (Draft ED, Appendix G) conducted during the rulemaking process,⁴ it is reasonable to assume an anticipated decline in hunting activity of less than 5 percent annually during the Proposed Program's implementation.

⁴ In a letter dated December 31, 2014, the Department of Finance concluded that the Proposed Program's total estimated impact does not exceed Finance's major regulation threshold of \$50 million. See Draft ED, Appendix H.

The Draft ED also acknowledges that, in the event that manufacturers are unable to meet the increasing demand for any particular nonlead ammunition as the regulations are phased in statewide, imbalances in supply and demand may make it more difficult for California hunters to obtain suitable ammunition. Although the reduction in hunting activity attributable to the Proposed Program is anticipated to be less than 5 percent, under these conditions a larger percentage of hunters may reduce their hunting activity or decide not to participate altogether.

Acknowledging that potential, BIO-3, incorporated by reference here, discusses in detail the risk that reduced hunting activity would reduce revenue to CDFW, and the potential for any such reduction in revenue significantly impact CDFW's ecosystem management or habitat improvement activities. BIO-3 concludes that, as compared to existing conditions, the potential impact on ecosystem management or habitat improvement activities from the Proposed Program is less than significant. In addition, although it is possible that a reduction in hunting activity may have a ripple effect in local economies, given the size of the anticipated reduction in hunting activities relative to hunting and other economic activity in general, the Commission finds that, as compared to existing conditions, it is speculative to conclude that those ripple effects will result in changes in land use or fiscal impacts on local governments that would result in significant physical changes in the environment.

For the reasons set forth above, the Commission finds that impacts to hunting activities due to the increased cost or unavailability of nonlead ammunition, which impacts result in direct or indirect physical changes to the environment including changes in land uses or reduced maintenance of habitat areas.

8. CUM-1

Impact: Other projects that may reduce hunting opportunity, which, in combination with the Proposed Program's impacts, would affect habitat.

Finding: The Proposed Program's incremental effect is not cumulatively considerable and the cumulative impact that will result from the combination of the Proposed Program's incremental impact and the effects of other projects is not significant.

Explanation: Although the Environmental Document used reasonable efforts to consider land conversion as a potential source of cumulative impacts, it is speculative to conclude when or how any reduction in hunting opportunities attributable to the Proposed Program will combine with reductions attributable to development throughout the state in a manner that will result in a physical change in the environment. In fact, it is possible that land development will unfold in conjunction with the setting aside of open spaces that provide for hunting opportunities and that current opportunities on public lands will continue. (Draft ED at 4:4.) Alternatively, it is possible that development will limit hunting opportunities in a manner that combines with the reduced hunting opportunities resulting from the Proposed Program, but that the combined reduction in hunting opportunities will not result in reduced revenues: (1) to local economies, such that land use changes occur; or (2) to CDFW, such that CDFW's habitat improvement or ecosystem management activities are adversely affected. (Id.) Additionally, land conversion has been, and will continue to be, an ongoing factor affecting hunting opportunity.

As to the Commission's annual bag/quota limits, those limits may increase or decrease annually, reflecting the Commission's consideration of numerous factors associated with CDFW recommendations for harvest levels based on available data. (Draft ED at 4:4.) Even if a reduction in recreational hunting did occur as a result of the Proposed Program, it is unclear to what level this would affect the overall availability of game animals. (Id.) Therefore, while it is possible that future bag limits could be lower and therefore may cause a reduction of hunting opportunity, it is equally possible that future bag limits could be higher and provide more hunting opportunity. (Id.) In addition, as described in Chapter 3 of the Draft ED, the Proposed Program's potential impact to the environment includes beneficial impacts, and any adverse impact due to impacts on the environment from changes in land use or reduced revenue for habitat improvements or ecosystem management are unlikely to occur.

For these reasons, the Commission finds that the Proposed Program's incremental effect is not cumulatively considerable and the cumulative impact that will result from the combination of the Proposed Program's incremental impact and the effects of other projects is not significant.

D. Alternatives

In the context of Fish and Game Code section 3004.5's mandate to the Commission, the Environmental Document includes a detailed discussion of a reasonable range of potentially feasible alternatives that would achieve most of the basic project objectives. In addition, the Draft ED includes a discussion of other alternatives considered, but dismissed as infeasible, as well as including a related discussion regarding the environmentally superior alternative. (Draft ED at 5-2 to 5-9.)

However, where, as here, a lead agency has determined that the project will not cause one or more significant environmental effects, the agency has no obligation to determine whether there remain any project alternatives that are both environmentally superior and feasible within the meaning of CEQA. Consequently, as to alternatives, nothing more is required for these findings or for CEQA generally.

E. Conclusion and Certification

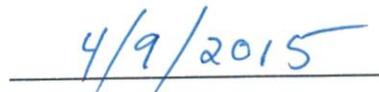
The Commission's findings set forth above identify and address all of the potentially adverse project-level and cumulative environmental impacts expected with the Proposed Program's adoption. The Commission's final action to adopt the regulations as described within the Proposed Program would result in less than significant impacts, and would include environmental benefits, as compared to either the existing condition, or deferring implementation of Section 3004.5 to July 2019.

In addition, although not considered for purposes of the Commission's significance conclusions, the Commission notes that the statewide implementation of the nonlead requirement will occur by statute not later than July 1, 2019 (i.e., the "no project" alternative) regardless of the Proposed Program's phasing. As a result, the less than significant and beneficial impacts associated from the Proposed Program's phase-in of nonlead ammunition will be short-term as compared to the statutorily required, July 1, 2019, implementation.

The Commission has reviewed and considered the information in the Environmental Document, and, in light of the compliance with the CEQA generally and the Commission's CRP, finds that the Environmental Document reflects the Commission's independent judgment and discretion, finds that the Environmental Document was completed in compliance with CEQA, and hereby certifies the Environmental Document and adopts these findings of fact as set forth above, and approves the Proposed Regulations for purposes of CEQA, the CRP, and Fish and Game Code section 3004.5.



Sonke Mastrup
Executive Director
Fish and Game Commission



Date