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October 22, 2015

Via email and US Mail

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East Bay Regional Park District

2950 Peralta Oaks Court
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RE: Chabot Gun Club and Marksmanship Range Long-term Lease

Dear Members of the Board:

Thank you for considering these comments regarding the lease for the Chabot Gun Club and Marksmanship Range.

Golden Gate Audubon Society engages people to experience the wonder of birds and translate that wonder into actions that protect native bird populations and their habitats. We submit this letter on behalf of our thousands of members in Alameda County who care deeply about protecting local wildlife and ensuring responsible stewardship of public lands for the benefit of wildlife and people, too.

We are firmly opposed to the renewal of the Gun Club's lease. The primary reasons for our opposition concern the burden of lead toxicity and unabated noise. The proposed mitigation measures for required new compliance, lead remediation, and noise abatement are monumental compared to the value to the District of maintaining a Gun Club for so few users on public lands while degrading the value of that leased property at the very same time.

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OVER FIFTY YEARS OF CONTINUOUS LEAD CONTAMINATION

From its inception in 1964 to the present, the Chabot Gun Club and Marksmanship Range (the Club) has continuously fired lead ammunition. For over fifty years, lead contamination has been leaching into the soil and surely into the watershed feeding Lake Chabot - an emergency water supply for San Francisco Bay Area residents. The EPA estimates "that approximately four percent (4%) (80,000 tons/year) of all the lead produced in the United States in the late 1990's (about 2 million tons/year), is made into bullets and shot... [I]t is clear that much of this 160,000,000 pounds of lead shot/ bullets finds its way into the environment at [shooting] ranges."¹

New Costly Environmental Compliance and Regulatory Oversight Requirements

Regulatory oversight by state, federal, and local agencies will require new and costly compliance and remediation actions. A decision by the East Bay Regional Park District's (District) to renew the Club's lease will trigger a requirement to prepare an Environmental Impact Report (EIR) for environmental review under the California Environmental Quality Act.²

The State Waterboard Storm Water Pollution Prevention Plan (SWPPP) requires a general permit for stormwater pollutants at the Chabot Gun Range site. Since stormwater data remains limited, the new 2015 general stormwater permit "imposes additional requirements" [that will] "substantially increase [Club operation costs]."³ The SWPPP implements an adaptive management approach based on the Environmental Protection Agency's Best Management Practices for Lead at Outdoor Shooting Ranges.⁴ Under this approach, the site is monitored "to determine whether additional measures are needed to meet regulatory thresholds...[Any excess] runoff [may result in] "additional, more costly measures."⁵

Downstream Sampling Found Hugely Elevated Levels of Lead Contamination

Lead concentrations that are significantly greater than the E.P.A. Benchmark (pollutant concentration) Value for total lead of 0.0816 mg/L (milligrams per liter) are considered toxic and must be cleaned up or remediated under the requirements of a SWPPP (Stormwater Pollution Prevention Plan) permit.⁶ From 2009 to 2014, the Park District measured the lead levels after rainfalls **in the streams that flow from the Club and Gun Range to Lake Chabot**. Lead contamination in these streams measured 1.7mg/L and 1.2 mg/L: which are **more than 20 and 14 times greater than the E.P.A. Benchmark Value!**⁷ Such toxic lead levels -- vastly exceeding the EPA Benchmark Values -- must be cleaned up and remediated under the SWPPP permit compliance requirements.

Lead Contamination Poisons Wildlife and Habitat

Not only is lead contamination harmful to humans, it is a fatal menace if ingested by myriad species of native wildlife, including critically endangered California Condors. Lead poses serious problems from a broader ecological standpoint, too. While raptors, vultures, or other scavenging species get exposed to lethal levels of lead when consuming lead-tainted prey, they and dozens of other species can be poisoned when drinking or even bathing in lead-contaminated puddles or water sources. Chabot Regional Park serves as habitat for

145 reported bird species.⁸ Even Lake Chabot's nesting Bald Eagles are at risk of exposure from lead contamination!⁹

Simply stated: the District's mission of "*preserving a priceless heritage of natural resources*", managing park areas for "*healthful recreation for generations to come*", and the park's own principle that "*an environmental ethic guides us in all we do*" are glaringly dishonored by continued operation of this gun club on District land.

Concerns over the impact of lead on wildlife are rising.¹⁰ Like many regions, the State of California will have a complete ban of lead-bullets for hunting before 2020.¹¹ Outdoor gun ranges, such as the Club which have continued to use lead-bullets should stop adding to the already serious lead contamination danger for native wildlife and habitats.

Required Costly Environmental Cleanup and Remediation of Lead Contamination

Regardless of whether the Chabot Gun Club's lease is renewed by EBRPD, GGAS urges the Park District to require the Gun Club to:

1. Immediately cease all activities that result in lead contamination at the site; and,
2. Pay immediately to cover all the costs for a near-term remediation program to clean up the site and all the lead-contaminated areas in the watershed nearby associated with the Club's activities. This cleanup should include the uplands, marsh and open water where shots have been fired or where lead from Club activities has leached into soil or been borne downstream into the watershed.

EXCESSIVE CONTINUOUS AND ANNOYING NOISE FROM THE GUN RANGE

GGAS reviewed numerous complaints from hikers, campers, and nearby residents about the excessive and annoying noise that the gun range produces. As a result of an average 168 visits per day, 4 days per week, and 208 days per year, the Club produces a continuous disturbance that is described as "a public nuisance"¹² by visitors and residents.

- Years of Ongoing Complaints Constitute A Significant Adverse Impact

Numerous complaints from neighbors about excessive and annoying noise establish a significant adverse environmental impact that triggers a CEQA-required Environmental Impact Review.¹³ Presently three petitions that oppose renewing the Club's lease are in circulation. One of the most recent petitions already has well over 2,000 signatures.¹⁴ The District should take this concern especially seriously. Taxpayers fund our regional parks to provide places for sustainable recreation but also as refuges of solace and serenity. Few sounds are more profoundly unsettling to human peace of mind than the sound of gunfire erupting at random.

Noise From Gun Ranges Stress Wildlife

An example of a common complaint from birdwatchers and hikers is that the "sounds of birds were gone" [due to] "a constant fusillade of gunfire."¹⁵ At best, many native birds are

merely deterred from using what would otherwise be viable habitats. Research clearly demonstrates the stress and reactions of birds that are flushed by gunfire.¹⁶ Other studies also show that birds' hearing can be permanently impaired from the sound of gunfire.¹⁷ For instance, the survival of songbirds and other species reliant on reasonable acoustical conditions for courtship and breeding is especially menaced by the noise pollution generated by the gun club. It is unknown how many individuals of how many species of our native songbirds have already been impacted far more adversely by the abrupt deafening concussive sound of gunfire from the Gun Club. It's sobering to ponder, however, because songbirds have exquisitely finely tuned hearing, which is vastly more sensitivity than human ears.

It's troubling that our regional parks' habitat values are degraded at -- as well as all around --the Chabot Gun Range, because of this disruptive noise. Areas that could otherwise host many songbirds are severely compromised by unreasonable noise pollution.

AN UNACCEPTABLY HIGH RISK OF SAFETY AND LIABILITY

The risk and liability of having an outdoor shooting range in a populated urban environment is unacceptable. The United States Department of Energy, Office of Health, Safety and Security established criteria requiring that outdoor shooting ranges be well away from populated urban areas. "Outdoor range sites should be remote from other activities."¹⁸ Such criteria cannot be met at the Club and therefore, "[t]he park is required to have a buffer zone around the range to ensure the safety of others using nearby park facilities."¹⁹ If the park fails to provide an adequate buffer zone, then park visitors remain exposed to unsafe conditions that increase the District's and the Club's liability.

PROHIBITIVELY HIGH COSTS FOR LEAD REMEDIATION AND NOISE ABATEMENT

The October 8, 2015 Draft Information Report contained detailed accounts of the prohibitively high costs associated with meeting new requirements for compliance, remediation, and mitigation. Such immense costs would need to be fully covered by the Club and definitely should not paid for with public monies.

- High Costs Make Lead Remediation Unfeasible

Recommendations from Geosyntec Consultants include various source control, treatment control, and flow segregation measures. As an example of the excessive cost of lead cleanup in a lake, the Pacific Rod and Gun Club contaminated Lake Merced in San Francisco for over 80 years. That cleanup is estimated to cost \$22M, even though the Lake Merced site banned lead bullets way back in 1994.²⁰ Here, the contamination costs may well turn out to be even higher because Chabot Gun Club continues to use lead bullets even now in 2015. The District's Draft Report estimated that the method of clean up can raise costs anywhere from \$2.5M to \$20M.²¹ For this reason, GGAS insists that the Club be required by

the Park District to cease all lead-contaminating activity immediately.

- High Costs Make Noise Abatement Unfeasible

The 2015 Noise Abatement Feasibility Study (Study) concluded that ...[U]nique sound[s]...[are] detectable...as gunshots...within neighborhood [,] at campground [, and] all trail locations."²² The Study's proposed mitigation options for noise abatement designs, restricting certain types of guns, and closing the range for extended periods of time are insufficient and economically burdensome. These mitigation options do not actually abate the noise. They merely reduce the times of exposure and eliminate a certain percentage of the most egregious noise-producing weaponry. Yet, even these options are unlikely to pay for themselves because The Club is already losing money and these options would further further limit the Club's hours of operation and its user base.

PROHIBITIVELY HIGH COSTS FOR NEW COMPLIANCE AND OPERATIONAL REQUIREMENTS

The District's Draft Informational Report concluded that compliance and operational requirements would cost "approximately \$2.4M to \$3.4M in capital projects and an average of \$190,000 in annual operating and maintenance" expenses.²³ These noise buffering and mitigation would need to be paid for by the Club, on top of the previously mentioned estimated costs of lead clean up which will range from \$2.5 million to \$20 million. To put these huge costs in perspective, it's instructive to note that the Chabot Gun Club operated at a net loss of \$121,479 in 2014. If the Club were to eliminate shooting at the gun range from 2PM Friday to 12 Noon Saturday, as proposed in the 2015 Noise Mitigation Feasibility Study, the Club would likely see an even larger financial loss on their books than they reported last year. At this point, it makes no economic sense for the District to renew a lease for the Chabot Gun Club & Marksmanship on District property. Instead, the District should focus on cleaning the lingering lead on the property and recovering the costs of lead damage to public land and water resources by the long tenancy and operational practices of the Gun Club.

CONCLUSION

From a responsible stewardship perspective, the serious negative environmental consequences, plus the daunting costs associated with extending operation of the Club on District land, significantly outweigh any possible benefit of extending The Club's lease. Further, GGAS urges the Park District to pursue all costs for cleaning up the lead burden created by The Club since The Club's operations have been contaminating the watershed above Lake Chabot and degrading the area's recreational and habitat values for too long.

The Club must be held accountable for covering 100% of the costs for all new compliance requirements, plus 100% of the noise abatement required to continue operating, and ALSO bear the full final costs of lead remediation cleanup and mitigation which their business operations have caused. If the Club is neither willing nor able to pre-pay *now*, for all

these costs, the District would be very unwise to renew the Club's lease.

Thank you for your careful consideration of these remarks.

Sincerely yours,



Cindy Margulis
Executive Director

¹ USEPA, 2005 (USEPA 2) Best Management Practices for Lead at Outdoor Shooting Ranges. EPA-902-B-01-001. Revised June 2005
http://www2.epa.gov/sites/production/files/documents/epa_bmp.pdf

² EBRPD, Draft Information Report, Chabot Gun Club and Facility Operations at Anthony Chabot Marksmanship Range, p. 1
<http://www.ebparks.org/Assets/Agendas+Packets+Minutes/2.+Board+of+Directors+-+Committee+Meeting/Board+Operations+Committee/10-15-2015/10-15-2015+-+Operations+Committee+Revised+Draft+Informational+Report+on+Chabot+Gun+Club+-+Rev.pdf>

³ Ibid. p.5

⁴ USEPA, 2005 (USEPA 2) Best Management Practices for Lead at Outdoor Shooting Ranges. EPA-902-B-01-001. Revised June 2005
http://www2.epa.gov/sites/production/files/documents/epa_bmp.pdf

⁵ EBRPD, Draft Information Report, Chabot Gun Club and Facility Operations at Anthony Chabot Marksmanship Range, p. 1
<http://www.ebparks.org/Assets/Agendas+Packets+Minutes/2.+Board+of+Directors+-+Committee+Meeting/Board+Operations+Committee/10-15-2015/10-15-2015+-+Operations+Committee+Revised+Draft+Informational+Report+on+Chabot+Gun+Club+-+Rev.pdf>
<http://cwea.org/p3s/documents/multi-sectorrev.pdf>

⁷ Chabot Gun Club Stormwater Sampling Summary report

⁸ <http://ebird.org/ebird/hotspot/L874154>

⁹ http://www.ebparks.org/about/news/Anthony_Chabot_Bald_Eagles_Are_Nesting_Again_Raising_Another_Baby

¹⁰ http://www.nwhc.usgs.gov/disease_information/lead_poisoning/

¹¹ <https://www.wildlife.ca.gov/Hunting/Nonlead-Ammunition/Certified>
Certified NonLead Ammunition, CDFW

¹² Petition sets stage for showdown over Chabot Gun Club
<http://www.sfgate.com/bayarea/johnson/article/Petition-sets-stage-for-showdown-over-Chabot-Gun-5264029.php>

¹³ "Hikers and neighbors have long complained about the noise from pistols, rifles and shotguns." Environmental Problems May Shoot Down Chabot Gun Club
<http://www.sfchronicle.com/bayarea/article/Environmental-problems-may-shoot-down-Chabot-Gun-6536021.php>

¹⁴ http://petitions.moveon.org/sign/end-operating-an-outdoor?source=s.icn.em.mt&r_by=7864902

¹⁵ Letter from H. Gerken to the District, April 9, 2013

¹⁶ Stalmaster, Mark V. and Kaiser, James L., 1997, "Flushing responses of wintering bald eagles to military activity", **Journal of Wildlife Management**. 61(4) 1307-1313

"Flushing by eagles decreased with increasing distance from firing events."

Assessment of training noise on the red-cockaded woodpeckers, Delaney, D. K., L. L. Pater, R. H. Melton, B. A. MacAllister, R. J. Dooling, R. Lohr, B. F. Brittan-Powe, L. L. Swindell, T., A. Beaty, L. D. Carlile, and E. W. Spadgenske, 2002. SERDP Project CS-1083.

"[I]t is important to determine buffer zones within which activities near critical wildlife areas are limited."

Rodgers, JA; Schwikert, ST, 2002, "Buffer-Zone Distances to Protect Foraging and Loafing Waterbirds from Disturbance by Personal Watercraft and Outboard-Powered Boats," **Conservation Biology** Vol. 16, no. 1, pp. 216-224. Notes: dB(A), visual and auditory disturbance confounded.

¹⁷ [B]irds' ears can suffer physical damage at continuous (>72 hours) exposure to noise above 110 dBA.

http://www.epa.govt.nz/resource-management/NSP000033/NSP000033_BoD_Volume_4_31_Siiri_Wilkening_%2810_March_2014%29_Summary_of_research_of_noise_effects_on_animals.pdf

Noise Effects on Animals, EPA, New Zealand, March 2014

¹⁸ Range Design Criteria, U.S. Department Of Energy, Office of Health, Safety and Security

http://energy.gov/sites/prod/files/2013/05/f1/Range_Design_Criteria.pdf

¹⁹ Environmental Problems May Shoot Down Chabot Gun Club

<http://www.sfchronicle.com/bayarea/article/Environmental-problems-may-shoot-down-Chabot-Gun-6536021.php>

²⁰ <http://www.sfchronicle.com/bayarea/article/S-F-gun-club-closure-triggers-22-million-cleanup-6097372.php>

²¹ EBRPD, Draft Information Report, Chabot Gun Club and Facility Operations at Anthony Chabot Marksmanship Range, p. 6

<http://www.ebparks.org/Assets/Agendas+Packets+Minutes/2.+Board+of+Directors+-+Committee+Meeting/Board+Operations+Committee/10-15-2015/10-15-2015+-+Operations+Committee+Revised+Draft+Informational+Report+on+Chabot+Gun+Club+-+Rev.pdf>

²² Ibid Page 8

²³ Ibid p.10