

To The California Fish & Game Commission:

I am writing this letter on behalf of SAVE THE FROGS!, a California-based public charity dedicated to protecting endangered amphibian populations and promoting a society that respects and appreciates nature and wildlife. We work in California, across the USA and around the world to create a better planet for humans and wildlife.

I have been a professional amphibian biologist for the past twenty years, and I have been speaking at FGC meetings on the topic of bullfrog importations since May 20th, 2010, at which time the Commission voted affirmatively for a second time (the first being on April 10th, 2010) to direct the DFW (then the DFG) to stop issuing permits for the importation of American Bullfrogs (a directive that was never abided by).

American Bullfrogs are widely regarded as one of the world's worst invasive species, due to their ability to invade and persist in new locations, and their ability to prey on, compete with and spread diseases to native wildlife.

I have attached letters from concerned scientists at UC Santa Cruz, University of Georgia, EcoHealth Alliance, University of Queensland, Sacramento City College and the French Herpetological Society, which detail the harms caused by American Bullfrogs.

No Californian needs to eat, jump, or keep as a pet, an American Bullfrog. Even if they did choose to partake in these activities, there is no reason why they would need a LIVE bullfrog imported in from a foreign country. A frozen frog or a live frog harvested from the feral bullfrog populations of California would suffice and would be far less ecologically harmful than a live imported frog, which would bring with it all its viruses, fungi, bacteria and ectoparasites, and would possibly escape or be set free in the wild to prey upon, compete with, and spread diseases to California's native amphibian populations.

As such, I urge the FGC, the DFW and the politicians of California to do whatever is necessary, as rapidly as possible, to ban or otherwise bring to a complete cessation, the importation of live American Bullfrogs into the great state of California.

On behalf of the worldwide SAVE THE FROGS! community, thank you for protecting California's native wildlife and unique ecosystems by stopping the importation of live American Bullfrogs into the state. Together we can SAVE THE FROGS!

Sincerely,



Dr. Kerry Kriger

October 6th, 2023



Dr. Kerry Kriger
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savethefrogs.com



EcoHealth Alliance

28 October 2010

To Whom It May Concern,

American Bullfrogs (*Lithobates catesbeiana* = *Rana catesbeianus*) are commonly farmed and transported worldwide. My colleagues and I have published peer-reviewed manuscripts demonstrating that these frogs are known carriers of the amphibian chytrid fungus (*Batrachochytrium dendrobatidis*) and thus are likely to be *primary* contributors to the global spread of chytridiomycosis, a disease that has decimated amphibian populations worldwide.

I would like to express my strong support for legislation that would ban the sale and import of live or unfrozen bullfrogs into the state of California. Legislation of this type will set a clear and strong example for other states on how to effectively reduce the spread of infectious diseases.

Please contact me anytime, if you would like me to discuss this matter further.

Sincerely,

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Savannah River Ecology Laboratory

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October 21, 2010

To Whom It May Concern:

I am writing in strong support of efforts to encourage the State of California to ban the importation of American Bullfrogs (*Lithobates catesbeianus*) into the City of Santa Cruz and the entire state. Bullfrogs are not native to any part of California and have a notorious reputation for becoming a major predator on native vertebrates, including endangered species. They also have the potential for spreading parasites and diseases to native amphibians as well as competing with them for prey animals.

Bullfrogs are prolific breeders when any water is available, with females laying more than 2,000 eggs. The tadpoles are typically resistant to predation by most fish, in contrast to most other frogs, so that large numbers of juveniles are produced successfully from a single mating. Hence, a single pair of introduced bullfrogs is capable of creating an enormous population of an invasive predator for which native species have no defenses. The voracious predatory nature of bullfrogs is well known, but their population sizes are adequately constrained in the eastern United States where a diversity of natural predators on bullfrogs abounds.

The introduction of bullfrogs into other states, such as California, outside their native range and even into other countries has proven to be an ecological disaster in many situations. I urge that citizens and elected officials in California consider effective controls that will limit the introduction of eggs, tadpoles, juveniles, and adults of American Bullfrogs and prevent this invasive species from occupying natural ecosystems in a manner that will have a negative impact on native species.

Sincerely,

J. Whitfield Gibbons
Professor Emeritus of Ecology
and
Co-founder of Partners in Amphibian and Reptile Conservation (PARC)

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October 21, 2010

To Whom It May Concern:

I am writing to encourage the State of California and City of Santa Cruz to ban importation of American Bullfrogs (*Lithobates catesbeianus*). Bullfrogs are not native to any part of California. During my many hours researching amphibians in the field and the lab, I have witnessed their many documented and also undocumented negative impacts on our struggling native wildlife.

Bullfrogs are very adaptable, easily establishing populations where they have been introduced worldwide. Female bullfrogs can lay upwards of 2000 eggs. Their tadpoles tend to be resistant to predation, unlike other species' tadpoles, thus a large number of juveniles can be produced even from a single mating. Thus, accidental or intentional release of just a few individuals can lead to an established population that can rapidly overtake habitat that would be used by native species. Further, bullfrogs are voracious gape-limited predators, meaning they will eat anything they can fit into their mouths. In the field, myself and many other Californian amphibian biologists have pulled countless threatened and endangered native frogs, toads, and salamanders out of bullfrog's mouths and stomachs (not to mention birds, fish, and small mammals). In sites where bullfrogs have been introduced, we note steep declines in the native amphibian populations and where bullfrogs have been eradicated, native amphibians have been able to re-establish populations. Bullfrogs are voracious eaters and without their native predators to keep their populations in check, they can have an enormous impact on our native fauna.

Bullfrogs are also strongly suspected carry several devastating amphibian pathogens. Lab studies indicate bullfrogs are carriers for amphibian chytrid, an emerging infectious disease of amphibians that is responsible for continued population declines and possible extinctions of amphibians worldwide, including California. Denying further importation of this frog species is a significant step in support of the recovery of California's many threatened and endangered amphibian species and ecosystems. I strongly urge elected officials and citizens support efforts to ban importation of any life stage of bullfrog into California and support all efforts to control introduction of bullfrogs into the native ecosystems.

Sincerely,

A handwritten signature in black ink that reads "Valentine Hemingway".

Valentine Hemingway
PhD candidate
Department of Ecology and Evolutionary Biology
University of California Santa Cruz



11/9/10

To Whom It May Concern:

I am writing this letter to show my support of the proposed ban on the importation and sale of American Bullfrogs (*Lithobates catesbeianus*) in the City of Santa Cruz and the State of California.

I have been studying Global Amphibian decline for over 20 years as a researcher and now an educator. I am the director of Tree Frog Treks. We serve 35,000 students a year in the Bay Area with our science enrichment program, which encompasses live animal contact (mainly exotic, rescued lizards, snakes, turtles and frogs) springboarding into other scientific disciplines such as biology, chemistry, physics and earth sciences. We explore the natural world on hikes and adventure treks, and lead camps, before- and after-school enrichment programs, and birthday treks. We serve Pre-K through Elder Hostel, with our focus being pre-K through 8th grade. I am an adjunct educator at the California Academy of Sciences.

Non-native introductions are second only to habitat loss in terms of their negative effect on native flora and fauna. Not only do bullfrogs displace natives by taking over habitat, eating them and their prey, but they also can carry a Chytrid fungus, *Batrachochytrium dendrobatidis* or "Bd" for short, a deadly disease to frogs. "Bd is a very important chytrid fungus because it appears to be capable of infecting most of the world's approximately 6,000 amphibian species and many of those species develop the disease chytridiomycosis which is linked to devastating population declines and species extinctions (Berger et al., 1998; Skerratt et al., 2007; Fisher et al., 2009). In fact, infection with *Bd* has been called "the worst infectious disease ever recorded among vertebrates in terms of the number of species impacted, and it's propensity to drive them to extinction (Gascon et al, 2007)." – <http://www.amphibianark.org/the-crisis/chytrid-fungus/> 11/9/10. We are a rescue center here at Tree Frog Treks – with over 100 rescued reptile and amphibian animal ambassadors. I can tell you first hand that many well intentioned moms, dads and children have released their pets, including frogs, into the wild without knowing the disastrous consequences that such actions can have. Also the food trade in bullfrogs can spread escapee frogs along with the chytrid fungus.

If frogs are indeed the canary in the coal mine indicator of a healthy environment for all living things, including ourselves, then it is time to ban the importation of bullfrogs to help restore balance to our populations of native amphibians.

Sincerely,

Chris Giorni, MA Biology

Director, Tree Frog Treks



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LABORATOIRE D'ÉCOLOGIE ALPINE

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To whom it may concern

Dear Madam, dear Sir,

I have been informed on the legislation project aiming to ban the importation and sale of American Bullfrogs (*Lithobates catesbeianus*) in the City of Santa Cruz and the State of California. I would like to support this project by adding some scientific facts about the effects of these introduced Bullfrogs for your environments.

I am working since 2001 on the biology and effects of American Bullfrog introductions in several regions of France. In 2006-2009, I coordinated an international programme (EU Marie Curie program) allowing comparisons between introduced Bullfrogs in Europe and western Canada. The most important results are that only some individuals released in an ecosystem can found a novel population (e.g. the Italian population which now cover 5,000 Km² was founded by less than 6 females in 1930), and the invasion success of also depends on the pattern of introduction (e.g. repeating releases of individuals increase the probability of invasion). There are many observations of competition and predation with the native herpetofauna (and other potential preys). Moreover, the American Bullfrogs is responsible – as a reservoir species - for the spread of a fungus which kills the native amphibians (in France, Spain, Belgium, Italy, U-K ...). Finally, the origin of introduced American Bullfrogs in Europe and western Canada is mostly for recreational use.

As a consequence, stopping importation and sale of American Bullfrogs is certainly one of the best ways to stop the spread of this species and then limit its negative effects.

I would be please to give you more detailed information about these studies

Sincerely

Claude Miaud

Professor University of Savoie

Vice-president of the French herpetological Society



Dr E. Pearl Symonds
School of Veterinary Science
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Gatton, Qld 4345.
Australia

To Whom it May Concern,

I am writing to encourage you to introduce legislation that will ban the importation and sale of the American bull frog (*Lithobates* former [*rana*] *catasbeianus*) into the state of California. The reasons for this are well established as not only are the species of frog in question a significant predator but has been strongly implicated in the spread of amphibian diseases, particularly Chytridiomycosis.

The greatest risk for the Californian native frogs, of which many have been disappearing, will be the release of a predator and disease vector such as this into the wild. It may be argued that there will be strict controls over the ownership and distribution of these frogs. However history and personal experience of many years talking to the public on such issues tells me that these cannot be enforced and nor are they upheld. Many American bull frogs have been introduced around the world into the wild through what is known as personal initiatives, most of the time ordinary people who have no intention of breaking the law but feel they are "doing the right thing".

There is really no reason to have this species in California, the use of these frogs for consumption and experimentation is no longer considered ethical and the use of them as pets can easily be replaced by local native Californian species. It is of concern that the American bull frog is already feral in many of the south eastern states of North America and the illegal flow from there cannot be policed. However removing them as a species from public ownership within the state of California is the best action you can do in creating public awareness. That certain species, even frogs can do irreversible damage if they become feral. If you wish to preserve the Californian wilderness and what is left of the states precious amphibian fauna then there needs to be geographical and legislative barriers that prevent the introduction of potential pest species such as this.

Yours sincerely

Dr E. Pearl Symonds

(BVSc, MACVS, PhD Candidate University of Queensland and Vice President of the Queensland frog Society.)

November 4, 2010

To Whom It May Concern:

The American Bullfrog (*Lithobates catesbeianus*) is a dire ecological problem that has caused an increased sense of awareness and concern today. There is now a consistent push to promote legislation that would ban the sale and importation of *L. catesbeianus* in the state of California. As a biological field technician working on several species in central California, I have seen the disastrous effects bullfrogs can have on sensitive species once they are introduced into an ecosystem. Bullfrogs are out-competing native species for survival while spreading diseases; the ban of bullfrog sales and importation should be considered to address the problems.

Bullfrogs have damaged ecosystems around the world due to importation and a ban is needed on this because it is otherwise difficult to control invasive bullfrog populations. Large bullfrogs can grow up to eight inches in body length; consequently, they have the physical capability to consume a variety of prey items. They quite literally eat anything that is mouth size as shown by the snakes, bats, frogs, and mammals found in the stomachs of these predators. Large bullfrogs consume sensitive species such as the protected giant garter snake and the threatened red-legged frog. They are persistent in the wild, as exemplified by their maximum lifespan of 8-10 years, and their clutches of up to 20,000 eggs indicate that only a few bullfrogs are needed to create a new population. The use of chemicals is not feasible to control bullfrog populations because other species will be affected as well. So it has not been possible to biologically, physically, or chemically eradicate bullfrogs; we need to stop it at the source, which is human-driven.

Humans are aiding the bullfrog in displacing our native species by building permanent water units, which favors the bullfrog over the red-legged frog, which prefers ephemeral sources of water. Bullfrogs are also an agent in spreading Chytrid fungus, a disease that is decimating amphibian populations worldwide. The bullfrogs are somewhat immune to the disease, but through human importation of bullfrogs, they are spreading the disease to other countries. Global amphibian populations are at risk, which humans are contributing to. Legislation is needed to ban the sale and importation of the American bullfrog in California to begin with, and it will start a chain of other countries creating their own legislation. Other countries, such as the United Kingdom, have already recognized the devastating problem, and have already banned these frogs in their respective countries. With multiple amphibian species being on the brink of extinction, we need to take a step in the right direction and ban the sale and importation of bullfrogs. Thank you for your time.

Brijesh Varma
Biological Field Technician
Save the Frogs, Eric C. Hansen Consulting Group, Sacramento City College

