

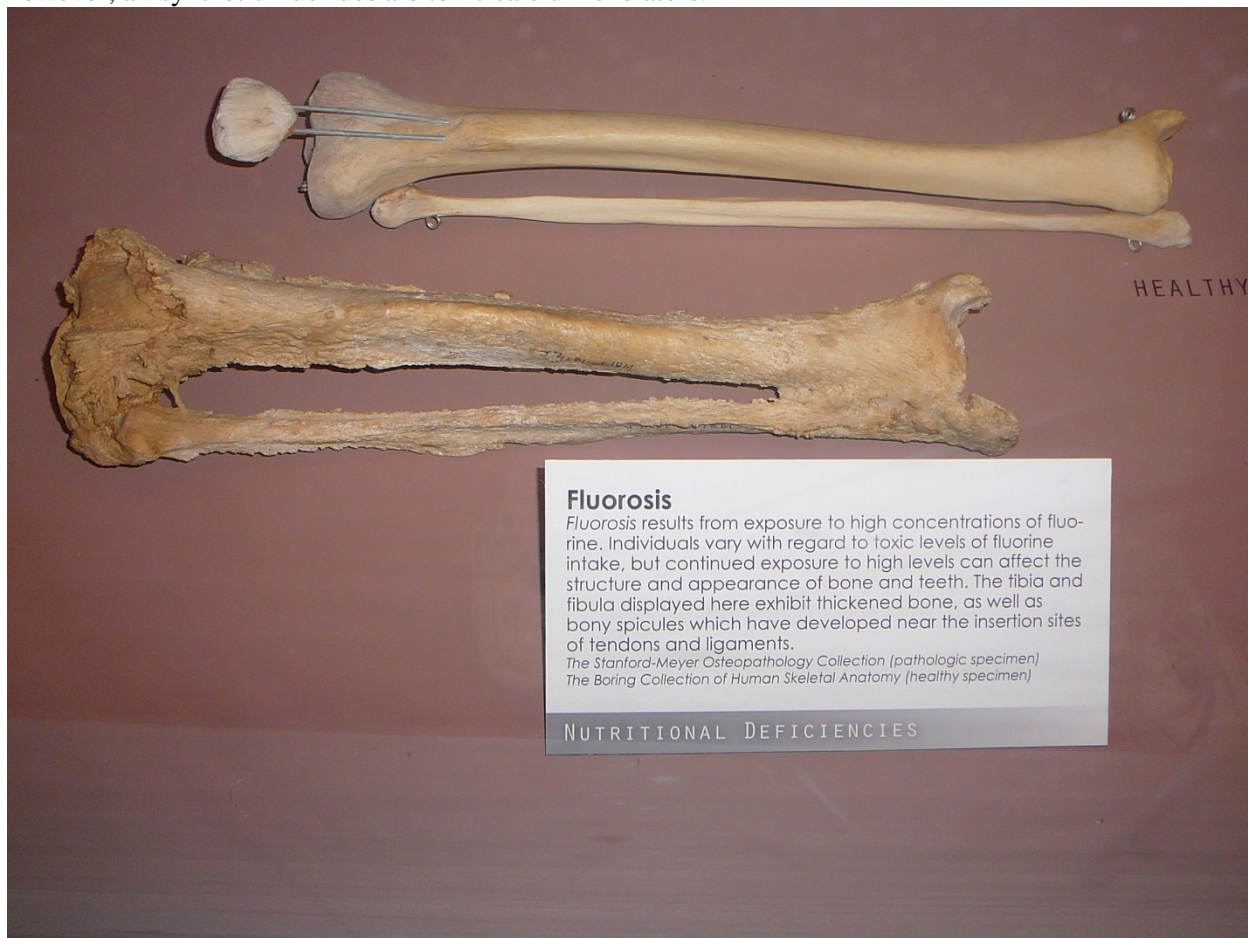
## Anionic Fluorine in Public Drinking Water—the San Diego Experience

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Anionic fluorine, the fluoride ion, was first injected into North San Diego County municipal water in Escondido by the Lake Dixon treatment plant in 2005. Metropolitan Water in Los Angeles began the injections for the greater Los Angeles area and for the rest of North San Diego County at the Lake Skinner treatment plant in 2007. The city of San Diego followed suit in February 2011. In all cases, for every 150 tons of fluoridation chemicals, 50 tons of caustic soda Drano are required to neutralize the acidity, 88 tons of material is water contaminated with arsenic, uranium, lead, silicic acid, and 12 tons of fluoride ion are also present. This is a brief update of some of the biologic concerns of the injections.

**Fluorine Chemistry.** Elemental fluorine oxidizes all substances in nature and thus does not exist on earth. It is oxidized by nothing and reduced by everything due to its extreme electronegativity. On the opposite end of the spectrum, fluoride has no electronegativity and in nature seeks positive ions including calcium and aluminum such as in fluorite and tourmaline. Fluoride is neither oxidized nor reduced by any substance on earth and is thus permanent and indestructible. Natural fluoride levels in the ocean at 1 ppm are accompanied with thousands of ppm calcium that minimizes fluoride toxicity. In fresh water, however, all synthetic fluorides are toxic calcium chelators.



**Fluorotic Bone.** Normal human tibia and fibula leg bones are shown next to corresponding human leg bone afflicted with fluorosis. Bone thickening is an attempt by the body to protect itself from low blood

calcium caused by the irreversible bone binding of the toxic calcium chelator fluoride. Surface abnormalities are significant here since fluoride incorporated pathologically during continuous consumption by this individual (the major fluoride source usually being fluoridated water supplies) in an irreversible, continuously accumulating manner, weakening bone. According to the National Research Council when fluoride accumulates to 4,000 ppm (from 1 ppm lifetime in drinking water) bone is significantly weakened, at 6,000 ppm it causes arthritis-like symptoms and at 10,000 ppm (as now found in some U.S. citizens in cities at the highest allowed levels of 4 ppm) causes immobility (NRC, Report on Fluoride in Drinking Water, National Academy of Sciences, Washington, D.C., 2006).

It is expected that all consumers in San Diego will incorporate fluoride into bone to 2,000 ppm in approximately two years, based on published findings from the NRC. The bones shown here are on display currently at the San Diego Museum of Man, Balboa Park, San Diego. Fluoride also incorporates into teeth when enamel is developing between ages 4-8, where fluorotic abnormal enamel with discoloration that is permanent is always increased in fluoridated cities without exception. The U.S. Health and Human Services ordered levels be lowered to 0.7 from 1 ppm since 50% of all U.S. children aged 12-15 have tooth fluorosis. Teeth fluorosis is an indirect window reflecting fluoride incorporation that is also concurrent in bone. We now have an epidemic of hip fractures in the U.S. elderly in fluoridated cities, as one would expect.

**Other Human Adverse Effects of Fluoride.** Chronic consumption of 1 ppm fluoride water in most cases causes low grade anemia by altering the structure of iron assimilating human intestinal cells (Shusheela; [www.fluoridealert.org](http://www.fluoridealert.org)). In 1% of all consumers, fluoride ingestion causes stomach upset and 1% of people are allergic to fluoride.

Animal experiments prove repeatedly that fluoride is not a mineral nutrient and in fact 1 ppm fluoride water decreases overall lifespan 10%. Acute toxicity studies indicate oral single ingestion of 125 mg per kg body weight of synthetic fluoride (without calcium antidote) or injection of only 5 ppm fluoride in blood are lethal in 50% of treated animals. Humans have been killed by fluoridated water supplies during overfeeds, including kidney dialysis patients in Maryland and Illinois and a Coast Guard native Eskimo in Hooper Bay, Alaska where 300 townspeople were severely poisoned (Gessner, new England journal of Medicine, 1994). Many children treated with fluoride gels in dental gels have perished from heart attack quickly afterward. Fluoride water has been associated with increased infant mortality, which is a national problem in the U.S. with a low world ranking in this category. 70% of all U.S. water districts now fluoride treat water which has been associated with increased rates of cancer, heart disease and mental retardation but has not been found to cause decreases in caries rate when ranked according to percent of the population that is exposed to the treated water (Osmunson; [www.fluoridealert.org](http://www.fluoridealert.org)). Chronic consumption of water with only 1.2 ppm has been widely documented to lower IQ in children. In research animals water with aluminum and fluoride at levels used by many water districts causes morphologic alterations in brain tissue and associated alterations in behavior that mimic human Alzheimer's disease (Varner, Brain Research, 1985).

**San Diego Injections.** The city of San Diego voted twice against fluoride injections and passed a city ordinance prohibiting it, but tobacco tax money was used to fund the construction of equipment to fluoridate all city water supplies which began February 2011. Before the injections began based on the epidemic we have of tooth fluorosis in the U.S., the U.S Health and Human Services requested that

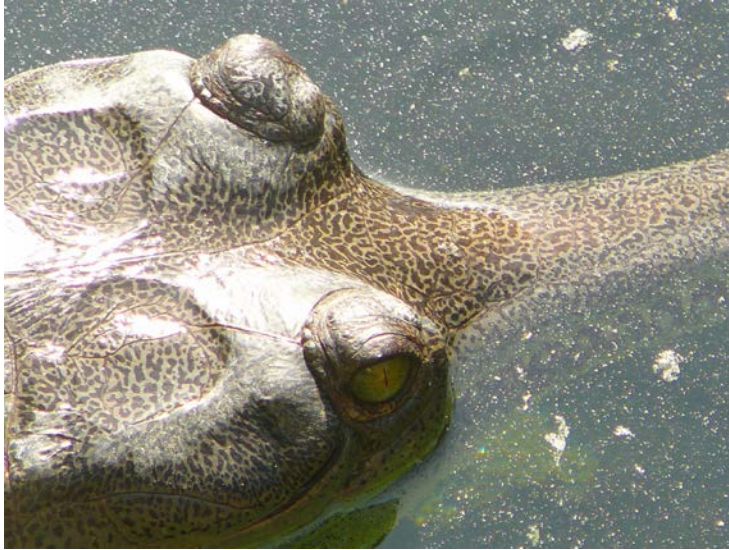
fluoride injections in public waters be kept below 0.7 ppm. San Diego had planned to inject at 1 ppm but most water plants accepted the 0.7 ppm maximum. A few however argued that 0.8 ppm would be injected. The fluoride content of water delivered to the San Diego Zoo is 0.8 ppm which is 400% higher than the 0.2 ppm fluoride naturally present before that time. The remaining city water supplies for the most part settled on using 0.7 ppm as recommended by HHS. With only 50 ppm calcium in San Diego moderately soft water, the ratio of calcium to fluoride was decreased drastically from 250 to 1 down to an unsafe 65 to 1. The lower the calcium to fluoride ratio, the more efficiently the fluoride ion is assimilated into the bloodstream after swallowing.



**San Diego Zoo now Fluoridated.** Let me preface the following information with a statement that it cannot be determined as yet the precise influence water fluoridation chemicals have had on Zoo animals

after several months use. One can basically speculate based on previous published data, but since San Diego water contains 50 ppm calcium, that somewhat minimize oral assimilation, and is now laden with sodium as well, comparisons with results from other locations are difficult. The gharial crocodile at our world famous San Diego Zoo, our city heritage and chief tourist destination, was specifically studied and extensively photographed before fluoridation of the Zoo was to begin, with the intent of studying the animal after drug use for comparison purposes. This magnificent and now nearly extinct animal shown in these photographs taken at the Zoo June 2010 is native to India, Nepal and Pakistan. Note the massive teeth, 100 in number, fully developed naturally in normal fresh water without added anionic fluorine. The animal at our Zoo happened to exit the water conveniently to pose for many photographs of his teeth and eyes. The eyeballs of this species are unusually large and completely green in color. It was expected to be unusually sensitive to the corrosive hydrofluoric acid from fluosilicic acid waste that was scheduled to be added soon afterward. These animals spend most of their time deep underwater because on land they are incapable of walking—they drag themselves on their belly for locomotion on land., and it was suspected that fluoride assimilation through the eyes and the dehydrating effects of added sodium in fresh water where sodium does not belong could cause significant adversity for this fresh water species.

An alligator farm in Kansas City was destroyed when fluoridated water was supplied for the alligators in which to live. The first symptoms were redness and swelling of the eyes, then progressive curving of the spine and early death (Spittle, Fluoride Fatigue' [www.fluoridealert.org](http://www.fluoridealert.org)). Sadly, only a few months after toxic hazardous waste fluosilicic acid with its caustic soda was added into San Diego water supplies, this gharial crocodile perished. The planned follow-up photographs therefore could not be taken. The extent to which anionic fluorine, or HF due to insufficient caustic soda, or sodium or other unknown factors related to water fluoridation may have contributed to this tragedy is not known, but living in drugged water cannot be said to have had zero involvement. Any organism ingesting (and here living in) the drugged water incorporates fluoride permanently into bone that accumulates daily lifetime. It is not possible for retained ingested fluoride to disappear and do nothing adverse, being a toxic calcium chelator poison. All species show differing sensitivity, and animals within a species also have wide biologic variability. The mere binding of fluoride to bone is itself pathologic that subtly affects overall calcium homeostasis. Any ill or sensitive animal could be substantially affected in health by the toxic accumulation. In man, 50% of ingested fluoride is eliminated in urine but the remaining 50% is stored permanently mainly in bone. The gharial is an unusual crocodile in having large bony flat plates all along its back and, being unable to stand on its legs, it is not comfortable on land and thus spends most of its time under water. Its metabolism is unusual in that the animal can hold its breath for over an hour and is thus quite comfortable residing long term daily deep in fresh water. Further, most crocodiles live in salt water, but not the gharial. Adding sodium to fresh water where it does not belong is dangerous for fresh water living organisms, compared to salt water varieties that have metabolic mechanisms to spend great amounts of energy to eliminate sodium.



Gharial crocodiles are expert swimmers with thin snouts that can be whipped quickly through water to catch fish. The fact that the gharial will not be attempted to be replaced may reflect the realization that proper care for these animals is not well understood. The breeding program for the gharial has failed. The Zoo will not be obtaining a replacement and thus these photos are probably the last of a nearly world-wide extinct animal that may never exist here again.





This photo of an alligator housed in the hippo enclosure at the San Diego Zoo was also taken June 2010. Notice the fine condition of the rock hard, sharp, white teeth in normal water without added fluorine drugs.



The same alligator is shown here photographed July 2011 in the hippo enclosure. The animal must be carefully observed for eye swelling and redness, but preferably should instead be allowed to live in a fluoride-free water supply. Zoo officials should not be held responsible for this city-imposed burden of treating all San Diego water supplies, to attempt to alter childrens' teeth, that permeates all organs of

consumers, including animals that do not brush teeth or require any fluoride. Fluoride is not a mineral nutrient, has never been approved by the FDA for consumption and has been labeled by the FDA an uncontrolled use of a drug and by the EPA as hazardous waste. Fluoride is now under review by the CA EPA for its published tendency to promote human cancers.



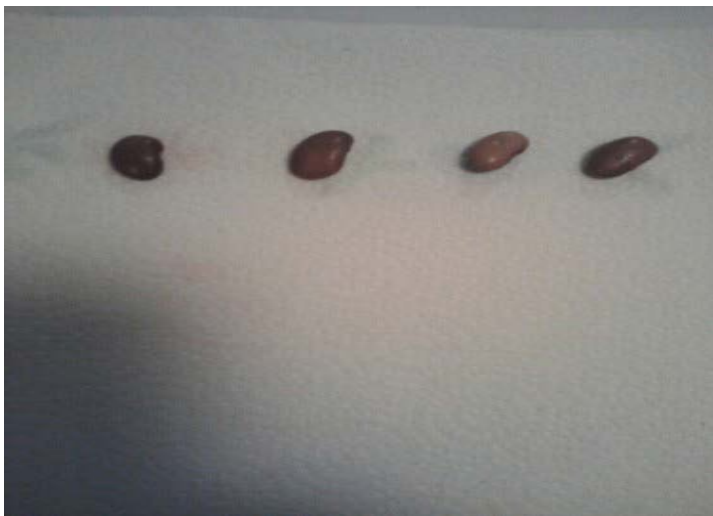
This hippo is another animal with a fine set of massive hard white teeth, fully formed normally in water without added fluoride drugs. Her baby hippo offspring was born January 26, 2011, just weeks prior to the date on which fluosilicic acid caustic soda mixtures were injected into San Diego Zoo water, in a futile attempt to reduce tooth decay in children between the ages of approximately 5-10. For this animal to construct perfect teeth with normal crystalline hard enamel, fluoride is not required and should be absent from the water supply in which it resides.

**Wild Animal Park.** Only two years after aluminum fluoride water was introduced to the San Diego Wild Animal Park, the famous elephant shows were canceled because of inability of the animals to follow instructions. Aluminum fluoride in the stomach forms complexes that are readily assimilated and is known to cause microscopic alterations in mammalian brain tissue with associated behavioral alterations similar to human Alzheimer's disease. De-fluoridated water is recommended for these animals, but

better yet is a request that all water supplies be left without injected drugs of any kind, particularly since Alzheimer's is the 4<sup>th</sup> leading cause of death in San Diego citizens at the present time.

Many argue that these observations are anecdotal and coincidence, that absence of fluoride is associated with strong teeth in animals, and that fluosilicic acid treated water contributes to premature death or adverse effects in sensitive species. Remember however that assimilation of fluoride with its associated aluminum cannot exert zero biologic effect. Binding of aluminum to brain protein may be a slow process that could remain relatively innocuous for long periods, but the act of binding into brain is itself an adverse abnormal biologic effect. Sensitivity to fluoridation chemicals varies widely among the animal kingdom and even broadly among individuals of a single species. One unusually sensitive species is salmon, which at only 0.3 ppm fluoride in fresh water become narcotized and cannot migrate for spawning. There is no dose of fluoride low enough that would completely prevent all its adverse [pathologic and metabolic effects. In fact fluoride is injected because of its ability to incredibly even alter the structure of the hardest material in the human, teeth enamel.

**Fluoridation Chemicals and Green Plants.** The following experiments are prospective and more well-controlled to help determine the effects of fluoridation chemicals on plant seed sprouting.



Bean seeds were obtained from Ferry Morse that were 'guaranteed to sprout'. This of course means your money back if they do not, nothing more. Seeds were placed in commercial pre-washed potting soil to be watered in separate containers with water from various sources. The container on the left was pre-rinsed with reverse osmosis water to which calcium and magnesium were added to normalize acidity and to provide approximately 50 ppm calcium that is present in water used for the remaining containers. Soil in the second container was pre-rinsed and then later watered with tap water from the Vallecitos Water District that had been de-fluoridated with bone char filtration and then filtered through a Purest One carbon filter. The third container was pre-rinsed and then watered with tap water from the Vallecitos Water District without post purification. This water is treated with fluosilicic acid and caustic soda Drano to 0.7 ppm fluoride and 93 ppm sodium and is utilized by the greater Los Angeles area and North San Diego County from the Metropolitan Water District. The last container was rinsed and then watered with tap water to which additional sodium chloride was added to a total sodium level of approximately 600 ppm. Seeds were watered for two weeks. The first seed to germinate and penetrate above the surface was

that in the bone char defluoridated water (fluoride < 0.04 ppm, 93 ppm sodium). Seeds in the fourth container were destroyed by the 600 ppm sodium and could not sprout. Seeds in the third container with tap water (0.7 ppm fluoride, 93 ppm sodium) were examined underground and had sprouted as shown in the photo. Seeds in the reverse osmosis water attempted to sprout but were delayed compared to sprouting in the second and third containers.

Avocados, apricots and other crops are highly sensitive to low levels of sodium. Avocado production in North San Diego county decreased soon after fluosilicic acid caustic soda injections began in 2007 when sodium levels elevated to 93 ppm from a previous average of 85 ppm. 93 ppm sodium is not known to affect bean seed sprouting and sprouting is evident in the second and third containers. Sodium at 600 ppm was added, fully expecting sprouting to be halted and indeed completely obliterated it as seen here. Reverse osmosis water slowed sprouting compared to tap water sources. RO water is devoid of arsenic, aluminum, fluoride, lead, sodium, uranium and other contaminants that plague North San Diego County tap water. Defluoridated tap water was measured at less than 0.04 ppm fluoride and bone char also is known to remove arsenic, lead, aluminum and uranium, all of which are present in the tap water. Both bone char tap water and unfiltered tap water contained 93 ppm sodium.





**Initial Hypotheses:** Missing factors in reverse osmosis water might influence plant sprouting, and bean seeds survive water containing 93 ppm sodium but cannot survive 600 ppm. Additional experiments are planned to test for detailed involved factors and repeatability.