

# S.A.C.P.A.

**Southern Arizona Cattlemen's Protective Association**  
(520) 393-1722, 8200 E Box Canyon Rd, Green Valley AZ 85614  
[www.sacpaaz.org](http://www.sacpaaz.org)



May 12, 2011

## VIA EMAIL

Ms. Brie Darr  
Wildlife and Sport Fish Restoration Program  
U.S. Fish and Wildlife Service  
P.O. Box 1306  
500 Gold Ave. SW, Suite 9019  
Albuquerque, NM 87103

CC:

Mr. Dave Weedman  
Habitat Branch  
Arizona Game and Fish Department  
5000 West Carefree Highway  
Phoenix, Arizona 85086

RE: Arizona Game and Fish Department Sport Fish Stocking Draft Environmental Analysis

Ms. Darr:

I am writing on behalf of the Southern Arizona Cattlemen's Protective Association (SACPA), which represents more than 70 ranching families in Pinal, Pima and Santa Cruz counties in Arizona, in response to the request for public comments on the Arizona Game and Fish Department Sport Fish Stocking Draft Environmental Analysis (EA).

The Southern Arizona Cattlemen's Protective Association thanks the Arizona Game and Fish Department (AZGFD) and the US Fish and Wildlife Service (FWS) for the opportunity to comment on the Arizona Game and Fish Department Sport Fish Stocking Environmental Analysis.

### ***SACPA strongly recommends the "No Action" Alternative***

SACPA supports and has always been a strong supporter of the multiple use of federal lands. We highly value the privileges and benefits of hunting and fishing in Arizona.

We have, however, reviewed the Arizona Game and Fish Department Sport Fish Stocking Draft Environmental Analysis (EA) and, based on the anticipated negative impacts to our members' educational, moral, spiritual, scientific, recreational, biological, property,

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personal health, livelihoods, culture and aesthetic interests as a result of the native fish restoration and mitigation plans that are mentioned relevant to the Proposed Alternative and the Reduced Stocking Alternative, we recommend the "No Action" alternative until such time as the following conditions are met:

First, the proposed alternative and the reduced stocking alternative must not be allowed to progress any further until after the Environmental Protection Agency completes consultations with the US Fish and Wildlife Service regarding the effects of rotenone, antimycin-A and any organic and/or synthetic formulations thereof, on humans including fetal humans, and the endangered and threatened species that may be affected by the aquatic use of this pesticide, and brings the US Fish and Wildlife Service into compliance with the Endangered Species Act.

Second, the statements published within the EA as well as the AZGFD's Comprehensive Wildlife Conservation Strategy for 2005-2015 (CWCS or SWAP), regarding the "stressors" affecting special status species must be discarded and rewritten to remove inaccurate and scientifically baseless statements made without any citation to peer-reviewed research about livestock grazing and its effects on special status species. In addition, Element 4 of the Comprehensive Wildlife Conservation Strategy must be discarded and rewritten accordingly. These inaccuracies, left uncorrected, will cause significant harm to SACPA's members, as we will point out within this letter.

### ***Takings of water rights***

Water rights are real property that can be bought and sold under Arizona law. Property rights are protected by the Fifth Amendment to the US Constitution and by Arizona law. Our member's water rights must not be taken, tainted, or tampered with without full compensation and due process of law. Any impairment or loss of the beneficial use of surface or ground waters due to water quality issues as a result of upstream government poisoning projects is a taking of property rights without due process of law.

### ***The EA violates the Data Quality Act***

It is a well-established fact that a primary cause of the decline of native fishes in Arizona is the stocking of nonnative sport fishes.<sup>1</sup> However, both the EA and the AZGFD's Comprehensive Wildlife Conservation Strategy for 2005-2015 (CWCS) with which it is inextricably connected, blame livestock grazing as a "major stressor" of special status wildlife and do so without presentation of any scientific data or peer-reviewed studies to support such claims.

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<sup>1</sup> Lennon, R.E., J.B. Hunn, R.A. Schnick & R.M. Burrell. (1971). Reclamation of ponds, lakes and streams with fish toxicants. A review. Reprint of F.A.O. Fisheries Technical Paper 100, FIRI/T100, Inland Resources Management Rome. 1970.

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The publication of this EA, being written to comply with the Endangered Species Act, requires the information being published by the US Fish and Wildlife Service follow the confines of the Data Quality Act Act of 2000 (Paperwork Reduction Act. 44 U.S.C. 3501 et seq amendment) (herein referred to as DQA) standards.

The EA must be withdrawn because it does not meet the DQA standards. The DQA was an attempt by Congress to ensure that federal agencies use and disseminate accurate information. The Data Quality Act requires federal agencies to issue information guidelines ensuring the quality, utility, objectivity and integrity of information that they disseminate and provide mechanisms for affected persons to correct such information (emphasis added).

At the request of FWS the following information is supplied, proving conclusively that the EA meets neither the ESA intent nor the DQA requirements of quality, utility, objectivity and integrity of information.

The obvious purpose of the requirement that each agency use the best scientific and commercial information available, apparently wholly lost on the AZGFD and FWS throughout this EA, “is to ensure that the ESA is not be implemented haphazardly, on the basis of speculation and surmise.” *Bennett v. Spear*, 520 U.S. 152, 176 (1997). Another objective of this requirement, “(if not indeed the primary one), is to avoid needless economic dislocation produced by agency officials zealously but unintelligently pursuing their environmental objectives.” *Bennett v. Spear*, 520 U.S. at 177 (1997).

### ***The Proposed Alternative embraces and increases the key stressor that is driving native fish species to extinction.***

Many species of native fish from the southwestern United States, including those in the Gila River basin in Arizona and New Mexico, are critically imperiled primarily because of the introduction and establishment of nonnative fishes.<sup>2</sup>

### ***The mitigation plan for the Proposed Alternative conflicts with authoritative, commonsense guidelines***

A review of the use of fish toxicants by the Southeastern Fish Control Laboratory, Warm Springs, Georgia and the U.S. Fish and Wildlife Service states,

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<sup>2</sup> Dawson, V. K., and C. S. Kolar, editors. 2003. Integrated management techniques to control nonnative fishes. U.S. Geological Survey, Upper Midwest Environmental Sciences Center, La Crosse, Wisconsin, December 2003. 146 pp. Appendixes A–F

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*" Our use of toxicants should be restricted to instances of demonstrated need where practical alternatives are lacking. The toxicants employed should be **specific to fish and proven safe to wildlife, livestock, and man**" (emphasis ours).<sup>3</sup>*

The use of rotenone as a piscicide in streams that are tributaries to the Santa Cruz and San Pedro watersheds, and in livestock tanks that the animal component of the human food supply—wildlife and livestock— need for sustenance, is a threat to the safety of wildlife and man. The effects of rotenone consumption on livestock have never been evaluated and as such remain undocumented rather than proven safe.

The USGS Guidance document on fish restoration says the following after encouraging the use of selective piscicides:

*"The use of chemicals is still the most direct method of reducing pest numbers, and it is often one of the first methods considered for control. However, it is not likely that the present arsenal of approved selective piscicides would be effective for controlling nonnative fishes in the southwestern United States because the composition of native and nonnative species is different from most areas where selective piscicides are being used."*

***Recent studies have demonstrated a statistically significant link between the use of rotenone-based pesticides and subsequent development of Parkinson's Disease in humans who have used them.***

Recently published peer-reviewed studies have confirmed a linkage between environmental exposure to rotenone and Parkinson's disease in humans. According to a study published this year by the National Institutes of Health, persons who have used rotenone as a pesticide are 2.5 times more likely to develop Parkinson's disease than those who have not.<sup>4</sup>

### ***Symptoms of Parkinson's Disease***

The AZGFD needs to be made aware of what Parkinson's disease involves because the agency insists it is certain its plans to use rotenone will never cause AZGFD employees who apply the poison to suffer the disease. Symptoms are included here to show the

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<sup>3</sup>Lennon, R.E., J.B. Hunn, R.A. Schnick & R.M. Burress. (1971). Reclamation of ponds, lakes and streams with fish toxicants. A review. Reprint of F.A.O. Fisheries Technical Paper 100, FIRI/T100, Inland Resources Management Rome. 1970.

<sup>4</sup> Tanner CM, Kamel F, Ross GW, Hoppin JA, Goldman SM, Korell M, et al. 2011. Rotenone, Paraquat and Parkinson's Disease. Environ Health Perspect :- doi:10.1289/ehp.1002839

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disastrous potential consequences of rotenone use and hint at the potential for a liability lawsuit from a victim of Parkinson's disease.

The Mayo clinic, quoted in the next paragraph, did not mention that Parkinson's disease also involves loss of bladder and bowel control, disorientation, and sleep disorders. The father of the author of this comment submission suffered Parkinson's disease and the terminal, irreversible dementia associated with Parkinson's disease, known as Lewy Body Dementia. For several years it was mis-diagnosed as Alzheimer's disease, which is nearly indistinguishable from LBD. The Mayo Clinic has obviously written the following words to an audience of new patients of Parkinson's disease who have either recently been diagnosed or are considering getting a diagnosis. As such, to this author, the following description of symptoms appears to be deliberately understated to avoid terrifying new patients.

[By Mayo Clinic staff](#)<sup>5</sup>

*The symptoms of Parkinson's disease can vary from person to person. Early signs may be subtle and can go unnoticed. Symptoms typically begin on one side of the body and usually remain worse on that side even after symptoms begin to affect both sides.*

*Parkinson's signs and symptoms may include:*

*Tremor. The characteristic shaking associated with Parkinson's disease often begins in a hand. A back-and-forth rubbing of your thumb and forefinger, known as pill-rolling, is common, and may occur when your hand is at rest. However, not everyone experiences tremors.*

*Slowed motion (bradykinesia). Over time, Parkinson's disease may reduce your ability to initiate voluntary movement. This may make even the simplest tasks difficult and time-consuming. When you walk, your steps may become short and shuffling. Or your feet may freeze to the floor, making it hard to take the first step.*

*Rigid muscles. Muscle stiffness can occur in any part of your body. Sometimes the stiffness can be so severe that it limits the range of your movements and causes pain. People may first notice this sign when you no longer swing your arms when you're walking.*

*Impaired posture and balance. Your posture may become stooped as a result of Parkinson's disease. Balance problems also may occur, although this is usually in the later stages of the disease.*

*Loss of automatic movements. Blinking, smiling and swinging your arms when you walk are all unconscious acts that are a normal part of being human. In Parkinson's disease,*

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<sup>5</sup> <http://www.mayoclinic.com/health/parkinsons-disease/DS00295/DSECTION=symptoms>

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*these acts tend to be diminished and even lost. Some people may develop a fixed staring expression and unblinking eyes. Others may no longer gesture or seem animated when they speak.*

*Speech changes. Many people with Parkinson's disease have problems with speech. You may speak more softly, rapidly or in a monotone, sometimes slurring or repeating words, or hesitating before speaking.*

*Dementia. In the later stages of Parkinson's disease, some people develop problems with memory and mental clarity. Alzheimer's drugs appear to alleviate some of these symptoms to a mild degree."*<sup>6</sup>

The use of rotenone clearly is unsafe to humans.

### ***Misleading Information on Dangers of Rotenone***

The AZGFD has issued misleading public information about its rotenone program that is contrary to the facts we find in recent peer-reviewed scientific studies, in their arguments that rotenone has been used in agriculture and in hunter-gatherer societies in ancient times in far away lands. Similarly absurd arguments might be made for the continued use of lead-based household paints, asbestos, and lead-based food canning processes. AZGFD has further implied in its public outreach statements the argument that rotenone poses no threat to human health simply because it is derived from a plant source, ignoring the obvious fact that the same might be said for arsenic, cyanide, cocaine, heroin, hemlock, and ricin.

A search of the literature reveals that, *"some cases of ingestion of the roots of plants (mainly "derris") are reported by Hayes (1982) as common means of suicide by natives of New Ireland. Acute congestive heart failure was found at autopsy."* The same source indicates that ingestion of rotenone produces liver damage.<sup>7</sup>

The following is copied from a lawsuit filed December 27, 1010 by the Center for Endangered Species Act Reliability against the EPA concerning the potential effects of rotenone on human health:

#### ***"C. Rotenone Use and the Affected Endangered Species***

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<sup>6</sup> Tanner CM, Kamel F, Ross GW, Hoppin JA, Goldman SM, Korell M, et al. 2011. Rotenone, Paraquat and Parkinson's Disease. Environ Health Perspect :- .doi:10.1289/ehp.1002839

<sup>7</sup><http://www.inchem.org/documents/pims/chemical/pim474.htm#SectionTitle:4.3%20%20Occupationally%20exposed%20populations>

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28. *The EPA classifies rotenone as highly toxic or slightly toxic depending on concentration. The World Health Organization classifies it as moderately hazardous. (IPCS, International Programme on Chemical Safety; United Nations Environment Programme; International Labour Organization; World Health Organization. (2007). The WHO Recommended Classification of Pesticides by Hazard. WHO ([www.who.int/ipcs/publications/pesticides\\_hazard/en/](http://www.who.int/ipcs/publications/pesticides_hazard/en/).) Rotenone is classified by the United States Department of Agriculture National Organic Program as a nonsynthetic and was allowed to be used to grow "organic" produce until 2005 when it was removed from the list of approved substances due to concerns about its safety. (Rotenone. Resource Guide for Organic and Disease Management. Cornell University.) Potential problems in mammals include dermatitis, allergies and possible Parkinson's like symptoms (Caboni P, Sherer T, Zhang N, Taylor G, Na H, Greenamyre J, Casida J (2004). "Rotenone, deguelin, their metabolites, and the rat model of Parkinson's disease". Chem Res Toxicol 17 (11): 1540–8. doi:10.1021/tx049867r. PMID 15540952.). Additionally, a recent scientific study published in the Journal of Agromedicine shows a correlation between 100 Parkinson's disease patients and the use of the pesticide rotenone (Dhillon, AS, Tarbuton, GL, Levin, JL, Plotkin, GM, Lowry, LK, Nalbhone, JT and S Shepard (2008). "Pesticide/environmental exposures and Parkinson's disease in East Texas." J Agromedicine. 2008; 13(1): 37-48.).*
29. *The approved use of rotenone as an aquatic pesticide introduces many toxins into the affected endangered and threatened species' habitat. Three ingredients in current rotenone formulations are on the Proposition 65 list of chemicals known to the State of California to cause cancer or reproductive toxicity. Moreover, exposure to rotenone has recently been directly linked with Parkinson's disease in humans. Further, rotenone, when used as an aquatic pesticide, interferes with oxygen use and is especially toxic to organisms that obtain oxygen from water, such as fish, amphibians and aquatic invertebrates. Certain species of aquatic invertebrates and native fishes are particularly susceptible to long-term or permanent extirpation from streams poisoned by rotenone. (Mangum and Madrigal (1999); Maslin (1996)).*
30. *Rotenone also has indirect lethal and sublethal effects as amphibians, birds and other species will likely suffer from depleted food sources because rotenone will substantially decrease insect populations and other macro-invertebrate populations and will eliminate fish populations depended on as food sources.*
31. *Despite this readily available information regarding these detrimental effects of rotenone, the EPA neither initiated the requisite ESA consultation nor complied with the FIFRA prior to issuing its re-registration decision on rotenone and approving its use as an aquatic pesticide."*

## **Inaccurate and Incomplete Presentation of Cumulative Effects in the EA**

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We find rotenone use in the proposed manner is not simply a practice occurring all across Arizona or the United States of America. At least 29 countries are engaging in this practice.<sup>8</sup> At the same time, migratory birds are increasingly imperiled yet we see no effort by the AZGFD, EPA or FWS to determine whether the cumulative impacts of their own water poisoning actions in concert with the game departments of 49 other states and 28 other nations might imperil migratory birds or result in massive colony collapse disorders in honeybees or weaken the immune systems of bats and frogs to fungal diseases.

The EA proposes for AZGFD to conduct mitigation efforts according to the State Wildlife Action Plan (SWAP, also known as the CWCS). In reviewing SWAP we find numerous scientifically unjustified plans to eliminate livestock grazing, which is referred to in that document, without citation to any scientific data, as a "major stressor."

As we strained the EA for any hint of actual scientific justification for proposed actions we found instead dishonest and scientifically baseless socio-political propaganda such as is embodied in the entirety of Section 6.4.1. Without citing any body of peer-reviewed science whatsoever, Section 6.4.1 implicates all commercial and recreational uses of land and water as being all-harmful and presents no hint of any possible benefit to special status species by those uses. In the same table the authors creatively extoll the proposed native fish restoration actions as being 100 percent good and beneficial as if no harmful environmental effect whatsoever could or ever has occurred using the proposed techniques. Scientifically, Section 6.4.1 of the EA is pure rubbish derived from the rubbish produced by pseudo-conservation NGOs and published as the Comprehensive Wildlife Conservation Strategy (CWCS or SWAP or whatever the AZGFD chooses to call it this month). One primary example of scientifically unfounded, arbitrary and capricious attacks on livestock grazing is found in the so-called "major stressors" section of Element 3, which attacks livestock grazing repeatedly without citation to even a single data point to support these arbitrary and capricious claims. These attacks are followed by prescribed socio-political bullying of the citizenry, which is inaccurately identified as "conservation" in the scientifically unsupported plans for environmental tinkering that we find in Element 4 and to which this EA refers.

An inquiry into documented facts, in stark contrast to the AZGFD's missives, reveals Section 6.4.1 for what it is—pure dishonesty. For example, the 5-year monitoring study on the Strawberry River in Utah shows that significant harm to non-target species was

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<sup>8</sup> Dawson, V. K., and C. S. Kolar, editors. 2003. Integrated management techniques to control nonnative fishes. U.S. Geological Survey, Upper Midwest Environmental Sciences Center, La Crosse, Wisconsin, December 2003. 146 pp. Appendixes A–F



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inflicted as a result of a fish restoration project that was carried out according to previously approved plans and carefully using the toxins according to the manufacturer's specifications (unlike AZGFD's poisonings of the tanks in Fossil Creek that went without followup detoxification or macro-invertebrate sampling).

Further, we find human error in carrying out similar plans by game and fish departments in other parts of the USA has caused significant environmental harm. For example in August 2010, four non-target miles of Cherry Creek in Montana was accidentally poisoned.

### ***FWS Republished Known Inaccuracies***

The scientifically unfounded, faith-based information published by AZGFD in Elements 3 and 4 of the SWAP, which form the basis of mitigation actions proposed in the EA, parallel and/or repeat the inaccurate, scientifically indefensible, faith-based information published by the FWS in the recent proposed rule<sup>9</sup> to list the Spike dace and Loach minnow as endangered species. Using peer-reviewed, journal-published science, biologists Dennis Parker and Mary Darling already responded to those inaccuracies in their comments submitted to FWS on behalf of SACPA<sup>10</sup>. Now we observe that four months after receiving those comments the FWS republished identical faith-based inaccuracies again in this EA in its request for comments. We recognize that even though the FWS has possession of scientific information disproving the faith-based inaccuracies in the EA, it chose to allow AZGFD to zealously and unintelligently republish those inaccuracies in the EA.

### ***Rotenone is not specific to fish or other target species***

The toxicant rotenone is not specific to fish but irreparably alters non-target macro-invertebrate communities. It is not proven safe to wildlife because macro-invertebrate species are wildlife. Insufficient research has been conducted to demonstrate the safety of rotenone to migratory birds that land and drink from a freshly poisoned water body or consume fish and bugs that were killed by rotenone poisonings. Insufficient research has been conducted to determine the effect on commercial honeybees that land on poisoned waters. The AZGFD has not investigated the effect of rotenone consumption on the Bumblebee hummingbird or the Golden-Cheeked warbler. The AZGFD has demonstrated no effort to ensure that such poisonings do not contribute to the recent colony collapse

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<sup>9</sup> Endangered Status and Designation of Critical Habitat for Spikedace and Loach Minnow; Proposed Rule (Federal Register / Vol. 75, No. 208 / Thursday, October 28, 2010 / Proposed Rules Pages 66482 – 66552)

<sup>10</sup> <http://www.aznmc.org/spikeloachcommen.html>

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disorder where bees leave the hive and mysteriously never return. Is rotenone-treated water safe for livestock? To the best of our knowledge, neither the AZGFD nor the FWS has investigated the question of livestock safety.

As far as we know, no studies have investigated the levels of rotenone that may be stored in the kidneys or liver of ungulate wildlife such as deer and elk. What happens to a wolf or condor that eats the liver of a deer that has consumed water from a poisoned livestock tank?

We have learned from the AZGFD report on the poisoning of five stock tanks in Fossil Creek that, despite the cool weather at the time of application, which would tend to keep the toxin active for at least several days, the AZGFD chose not to detoxify the stock tanks following rotenone treatment, as indicated in the following information cut and pasted directly from the report<sup>11</sup>

Fossil Creek Native Fish Restoration Project  
November 2005

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We did not use potassium permanganate to detoxify the rotenone following renovation since livestock would not use these tanks for several months following treatment. In addition, the organic load in the tanks helped detoxification to progress without the use of additional chemical. We signed all stock tanks during piscicide treatment and announced treatment dates and locations in the local newspapers to ensure that the public was aware of temporary closures at the stock tanks. All access points were also posted with this information.

What precautions by AZGFD prevented wildlife such as bugs, bats, canids, felids, rodents, birds and big game from consuming the toxic water?

The failure to detoxify these tanks, by the way, contradicts the information that Kirk Young and Don Mitchell told the SACPA board of directors in a face-to-face meeting December 10, 2010 (meeting notes are attached). While livestock may have been removed from the Fossil Creek stock tanks and prevented from using the poisoned waters at the time, wildlife likely was not. As far as we know, AZGFD did no follow-up monitoring on the effects of this unchecked poisoning on local wildlife.

***Rotenone poisoning must be repeated indefinitely***

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<sup>11</sup> Weedman, D.A., P. Sponholtz and S. Hedwall. 2005. Fossil Creek Native Fish Restoration Project. Arizona Game and Fish Department, Phoenix Arizona.

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Unless complete eradication of nonnative species can be achieved and re-infestation can be prevented, piscicides probably will have to be reapplied indefinitely to keep nonnative populations in check.<sup>12</sup>

This fact was proven in the recent AZGFD and Bureau of Reclamation attempts to "restore" Bonita creek, in direct contradiction to what the AZGFD employees told SACPA's board of directors in our December 10, 2010 board meeting (meeting notes attached). Within a year after the toxin was applied, the project had to be repeated because the targeted nonnative species found their way back in. A Bureau of Reclamation press release states,

*"The Bureau of Reclamation, in cooperation with the Bureau of Land Management, the U.S. Fish and Wildlife Service, and the Arizona Game and Fish Department, proposes to reapply a piscicide, known as rotenone, to a 1.7-mile segment of lower Bonita Creek to remove nonnative fish that pose a threat to five species of federally listed fish. Bonita Creek lies within the BLM-administered Gila Box Riparian National Conservation Area, approximately 12 miles northeast of Safford, Ariz.*

*In 2007, Reclamation released an Environmental Assessment (EA) to evaluate a native fish restoration project that involved the construction of a fish barrier, application of rotenone, and reintroduction of several species of federally listed fish in lower Bonita Creek. The project was implemented in late 2008. In 2009, three species of nonnative fish were again detected in lower Bonita Creek. Biologists believe the continued persistence of these nonnative fish may jeopardize the existing native fish assemblage in Bonita Creek. . ."*<sup>13</sup>

### ***Rotenone use has a spotty success record, according to USGS guidance***

*"Fish toxicants have long been considered the best rehabilitation tool available for fishery management (Prevost 1960, Hooper et al. 1964, Klar and Schleen 2000). However, there have been many treatment failures reported in the literature. Lopinot (1975) summarized the use of piscicides in the midwestern United States and reported that during 1963-72 about 82% of the treatments were considered successful. Meronek et al. (1996) reviewed 250 fish control projects and concluded 43% were successful, 29% unsuccessful, and 28% as having insufficient data to determine success or failure."*<sup>14</sup>

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<sup>12</sup> Dawson, V. K., and C. S. Kolar, editors. 2003. Integrated management techniques to control nonnative fishes. U.S. Geological Survey, Upper Midwest Environmental Sciences Center, La Crosse, Wisconsin, December 2003. 146 pp. Appendixes A-F

<sup>13</sup> <http://www.usbr.gov/newsroom/newsrelease/detail.cfm?RecordID=34602>

<sup>14</sup> Dawson, V. K., and C. S. Kolar, editors. 2003. Integrated management techniques to control nonnative fishes. U.S. Geological Survey, Upper Midwest Environmental Sciences Center, La Crosse, Wisconsin, December 2003. 146 pp. Appendixes A-F

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***Rotenone treatment irreparably damages aquatic ecosystems, driving significant percentages of non-target species to permanent extirpation.***

The use of rotenone has been shown to cause permanent eradication of significant percentages of invertebrate species, thereby disrupting the natural food chain all the way from plant consumption by affected macro-invertebrates to vertebrate and macro-invertebrate wildlife that feed on affected plants and bugs. A quarterly monitoring study of the Strawberry River in Utah showed that five years following rotenone treatment, 19 taxa comprising 21% of macroinvertebrate species were permanently extirpated, as the following abstract points out.

### **Rotenone Effects on Aquatic Macroinvertebrates of the Strawberry River, Utah: A Five-Year Summary**

Fredrick A. Mangum

*USDA Forest Service National Aquatic Ecosystem Analysis Lab*

*Uinta National Forest 88 West 100 North*

*Provo, UT 84601 USA*

and

J. L. Madrigal

*222 TMCB, Department of Statistics*

*Brigham Young University*

*Provo, UT 84601 USA*

#### **ABSTRACT**

Before treatment with a 3 mg/l Noxfish (0.15 mg/l active ingredient; rotenone) for 48 hours, benthic invertebrate communities were quantitatively sampled with a modified Surber net. Then spring, summer, and fall post-rotenone samples were taken monthly at each of four Strawberry River stations for five years. Statistical analyses of the data indicated that the application of rotenone had a significant effect on the following species density: *Cinygmula sp.*, *Pteronarcella badia*, *Hesperoperla pacifica*, *Hydropsyche sp.*, and *Brachycentrus americanus*. Thirty-three percent of the benthic invertebrate taxa at the four stations showed resistance to rotenone. Up to 100% of Ephemeroptera, Plecoptera and Trichoptera species were missing after the second rotenone application. Forty-six percent of the taxa recovered within one year, but 21% of the taxa were still missing after five years. Of the 19 taxa still missing, 47% were Trichoptera, 21% were Ephemeroptera, 16% were Plecoptera, 11% were Coleoptera, and 5% were Megaloptera.

***Scientifically unsupported accusations and regulatory actions against livestock grazing***

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The proposed mitigation plan mentioned but never revealed in this EA for so-called, "native fish restoration" has failed in past efforts, and to the detriment of endangered species. Invariably our members have been blamed and punished under the force of federal law when the result of government actions cause a decline of special status species. One example of the failed mitigation plan and its impact on the livestock industry is the AZGFD's report on the decline of Apache trout on the Verde River. Livestock grazing was excluded and then the trout declined. AZGFD's report, however, nevertheless still blamed the livestock grazing and recommended it be implemented in additional locations, rather than confess that the agency's removal of livestock had caused the decline in the endangered species. The agency still has no data indicating livestock grazing harms species. The authors of the report concluded,

*"Apache trout biomass and densities actually decreased as ungulate damage decreased from pre- to post-fencing periods, but as mentioned before we think this is because available habitat decreased. We do not suggest that grazing had a positive effect on Apache trout habitat and production, but rather other factors such as drought had negative effects that overweighed any positive effects of excluding livestock."<sup>15</sup>*

Although the AZGFD biologists were obviously shocked to learn their faith-based beliefs concerning the environmental effects of livestock grazing conflict with their own data, the Apache trout is not the only example of an endangered native fish species in Arizona that declined after grazing exclusion. Biologist and attorney Dennis Parker wrote the following relevant remarks in his response to the most recent call for public comments on the Coronado Forest Draft Plan:

*"Contrary to the false assumptions of this draft, there is no scientific research showing that controlled livestock grazing poses a threat to any species... Neither is there any research showing that livestock exclusion benefits the Gila topminnow or any other native cyprinid minnow. Instead, substantial scientific evidence... shows that controlled grazing benefits many species and that native cyprinid fishes, including Gila topminnows, have precipitously declined after livestock grazing has been excluded for their alleged benefit. In upper Cienega Creek, for example, the Gila topminnow was found to have declined by more than 98% just a decade after all livestock presence was excluded for their alleged benefit by the BLM (Bodner, Gori and Simms, (2007)). In Redrock Canyon, AZGFD surveys reveal that Gila topminnows declined and then disappeared altogether less than a decade after the Forest Service excluded all livestock from their presence.*

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<sup>15</sup> Robinson, Avenetti, Cantrell, August 2004. AZGFD Technical bulletin #7, "Evaluation of Apache Trout Habitat Protection Actions"

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*Similarly, in the upper Verde River, the Spikedace declined precipitously and became extinct less than three years after all riparian presence of livestock was excluded for its alleged protection by the Forest Service. Moreover, the remainder of the Upper Verde's native fish assemblage has also precipitously declined in the absence of livestock presence from making up more than 80% of all fishes found there in 1997 (Rinne and Miller (2006)), to less than 15% of all fishes found there today (RMRS, Flagstaff, 2009). (RMRS, Flagstaff, 2009)."*

J.N. Rinne (2004) provides further argument that livestock grazing does no harm to native fish species:

"Grazing of domestic livestock on upper elevation

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forested landscapes and riparian areas is generally thought to have an effect on fish habitats and fish species. However, most of the information pertain to salmonid species (Rinne 2000) and would apply only to the three native species of southwestern trouts (Gila (*Oncorhynchus gilae*), Apache (*O. apache*), and Rio Grande (*O. clarki virginalis*) cutthroat). Data on the upper Verde River, a warm water aquatic ecosystem in Arizona, do not corroborate the contention that livestock have a significant or even a demonstrable effect on native fishes (Figure 2). Removal of livestock on the upper Verde River in 1997 has resulted in markedly improved riparian conditions in form of increased vegetation and stream bank and channel alterations (Rinne and Miller in press). However, most native species, including the threatened spikedace, have declined in abundance and distribution in the upper Verde River. Most of the information addressing livestock grazing effects on fishes is 1) largely opinionated and conjecture, 2) based on qualitative, short term, non-replicated data, 3) primarily for salmonids, and 4) not based on sound science. Further, complicating and confounding factors make it difficult to produce definitive answers. The negative effect of grazing on native, cypriniform species for such variables as stream banks (Rinne and Neary 1997) and sediment levels (Rinne 2001) are not demonstrable. At present, there is no evidence, based on sound science, that grazing by domestic livestock has an obvious and well-documented negative effect on native fish species.

"

SACPA's members cannot afford to let government agencies bully them around as they casually and amateurishly tinker with the environment of endangered species, particularly when the actions proposed are the very actions that caused the decline of the species in the first place.

## ***Request for extension of comment deadline***

### **Request for Extension of Deadline for Comments**

We are requesting a deadline extension of at least an additional 60 days to July 11, 2011 for additional substantive public comment submissions. Although the deadline for

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comments was already extended from a 30-day comment period to 60, we nevertheless find the time allotted for public comments woefully inadequate.

The EA and its numerous appendices span no less than 397 pages. Even so, that plethora of words inadequately addresses the AZGFD's plans for mitigation and native fish restoration that are integral to the permitting process. To find even a fraction of the information necessary to make substantive comments, we have had to contact private biological consultants, meet with the Arizona Game and Fish Department personnel and spend countless hours searching for missing but critical information.

Considering the severity of accusations contained in the draft EA condemning all livestock grazing, regardless of management, as harmful to all native aquatic systems, we additionally intend to comment on the accuracy of specific statements made within the EA.

We have had to look outside the domain of the AZGFD and the Service to find the most important information relevant to the proposed actions. This is excessively time-consuming. Nowhere yet have we found any documented schedule of which livestock tanks, ponds, streams, seeps and other bodies of water the AZGFD intends to poison and no schedule of when these actions will occur. We additionally are currently reviewing past and future fish restoration operations on Bonita Creek and Fossil Creek because the information contained in those documents is the only information we have found so far that is relevant to the proposed water-poisoning projects.

Another document we have been searching for unsuccessfully so far is the Environmental Impact Statement that is required by law, for using rotenone as a piscicide in the fish restoration proposals, and additionally, any evidence that the Service has entered into consultation with the EPA on the proposed poisoning of waters with antimycin-A and rotenone. Please immediately send us any documentation that is available pertaining to this issue.

We additionally are researching the impacts of accidental misuse of fish toxins in similar projects around the USA by government biologists so that we can assess the level of risk to our members livelihoods, property values and health that will occur as a result of the proposed "native fish restoration" projects.

In addition, our members have been inundated over the last twelve months, and more intensively over the last 90 days, with numerous Federal Register notices, all proposing new, potentially devastating regulatory actions threatening the economic sustainability of their ranching operations and/or their personal welfare. All of these notices coincidentally contain scientific inaccuracies and/or unproven claims regarding the effects of livestock



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grazing on wildlife, while proposing governmental actions with dire potential consequences to our members if these inaccuracies go unchallenged. Interestingly, many of the same inaccuracies based on the same inadequate and incomplete sets of studies tend to reappear from one publication to the next regardless of the fact that numerous times we have given the Service more complete, more recent, more accurate and more credible peer-reviewed information to correct the inaccuracies that nevertheless appear repeatedly in each new publication produced by the Service. This particular EA is no exception.

With each new notice our members' livelihoods are held hostage under the threat of unfair, unscientific and predatory regulations and/or actions unless they immediately sacrifice endless amounts of time, money and lost opportunities to produce sufficient credible scientific evidence to prove their own innocence to the federal government, and now also to the Arizona Game and Fish Department. This EA, however, is worse, because it proposes the Service take action that new evidence shows will likely harm our members' health, shorten their lives, devalue their lands and potentially destroy the reputation of their product.

In addition to that, the comment periods for this draft EA, the relisting of the Chiricahua Leopard Frog, and the 2011 Forest Plan revision, as well as the IRS deadline for filing 2010 income taxes, all overlapped each other.

Furthermore, all these federal paperwork requirements coincidentally overlapped the very few cool months of the year in Arizona when, per signed legal business contracts, most of the year's gathering, sorting, vaccinating and shipping of cattle is required. It is also the time of year when a typical rancher's water system maintenance and improvement projects need to be underway.

In addition to the issues listed above, our members, many of whose grazing allotments are managed under Coordinated Resource Management Plans, are currently working closely with our local Natural Resources Conservation Districts as they engage in the coordination process with the Service on the recently published decisions and proposals published by the Service regarding the jaguar, the Spike Dace and Loach Minnow, and the Sonoran Desert Tortoise.

Respectfully submitted,  
Cindy Coping  
President, SACPA