DRAFT TALKING POINTS

SUMMARY OF ISSUE: On April 25th, 2013 the U.S. Fish and Wildlife Service released a Federal Register Notice (Volume 78, No. 80; Docket No. FWS–R8–ES–2012–0074). The notice establishes proposed critical habitat areas for the Sierra Nevada Mountain Yellow Legged Frog; the Distinct Population Segment (DPS) of the Mountain Yellow Legged Frog and the Yosemite Toad. The total proposed acreage spans twelve rural counties and 2,077,824 acres. Of this amount 82,555 acres are private land. Table 1 provides a summary of the impact of this proposed rule.

IMPACTS:

	Proposed Critical Habitat by Category					
	Federal Land	State Land	Private Land	Total Critical	Total acres	% of County
County	in acres	in acres	in acres	Habitat (acres)	of County	with Critical Habitat
Alpine	190,275.00	2,578.00	8,149.00	201,002.00	472,960.00	42%
El Dorado	77,891.00	-	5,300.00	83,191.00	1,095,680.00	8%
Fresno	665,953.00	1,225.00	217.00	667,395.00	3,816,320.00	17%
Madera	52,099.00	747.00	-	52,846.00	1,368,320.00	4%
Mariposa	17,438.00	-	-	17,438.00	928,640.00	2%
Mono	101,794.00	-	-	101,794.00	1,948,160.00	5%
Nevada	80,914.00	-	57,369.00	138,283.00	613,120.00	23%
Placer	5,921.00	-	3,365.00	9,286.00	961,920.00	1%
Plumas	69,252.00	131.00	6,192.00	75,575.00	1,634,560.00	5%
Sierra	13,945.00	-	1,758.00	15,703.00	609,920.00	3%
Tulare	213,166.00	-	24.00	213,190.00	3,112,320.00	7%
Tuolumne	501,657.00	288.00	176.00	502,121.00	1,431,040.00	35%
Total Acreage	1,990,305.00	4,969.00	82,550.00	2,077,824.00		

ISSUE: The populations of the Sierra Nevada Mountain Yellow Legged Frog and the Yosemite Toad have declined to near extinction levels over the past fifty years to a variety of causes. The Center for Biological Diversity sued the US Fish and Wildlife Service to list the frog and toad, along with 477 other species. In a 2011 Settlement Agreement the US Fish and Wildlife Service agreed to a specific plan that would require they evaluate a certain number of species per year for listing under the Endangered Species Act until they had exhausted the list submitted by the CBD. Among other species, the Mountain Yellow Legged Frog and the Yosemite Toad are among the first of many species to be evaluated for listing. With a listing comes the requirement for a Recovery Plan and the designation of critical habitat. The year following the settlement the Center for Biological Diversity petitioned for the listing of an additional 54 species of reptiles and amphibians.

Endangered Species Act

Section 4 – Critical habitat section

Section 6 – Provides that the Federal government may enter into a cooperative agreement with the States for the management of the critical habitat. This likely means the management of the critical areas will fall under the State of California and the Department of Fish and Wildlife. Likely the State imposed restrictions will exceed the Federal imposed restrictions. The Federal government pays the State for the management, so California is incentivized to take over management, and disincentivized to remove critical habitat designations.

TALKING POINTS

Primary Message: The designation of critical habitat will do little to restore the frog while causing further restrictions on private, State and Federal land that will harm the economies and lifestyle of rural counties.

SUMMARY

The actions needed to restore the Mountain Yellow Legged Frog and the Yosemite Toad don't require designation of critical habitat. The actions required can be accomplished without imposing further restrictions on land use. These actions include the specific targeting of high elevation watersheds and lakes for non-native trout removal and the investment in research for the Bd virus. The placement of restrictions only serves to further impact rural economies and eliminate logging, mining and recreation which are all important to rural economies. The science indicates the single most effective approach is the elimination of trout from areas they are historically not native to. This action doesn't require critical habitat designation. A successful Recovery Plan can be implemented without the designation of critical habitat. The USFWS should delay critical habitat designations until at least five years of trout removal and research into Bd have been accomplished. It is premature to place critical habitat designations.

Argument: Policy decisions alone will restore frog populations

Recommendation: Do not designate the critical habitat. Implement a Federal fish removal program for high elevation lakes and watersheds that eliminates fish in essential lakes and maintains a recreational fishing ability. Fund research to prevent Batrachochytrium dendrobatis (Bd). These two simple approaches will restore the frog and maintain the economic viability of rural counties.

The US Fish and Wildlife Service cites two primary reasons for the frogs decline that strengthen the argument critical habitat designation is not required:

- Non-native trout and fish stocking programs in high elevation watersheds and lakes. (U.S. Park Service, Information Sheet, 2012; Knapp, 1996; Knapp, Boiano, Vredenbert, 2007).

- Introduction of the fatal virus *Batrachochytrium dendrobatis (Bd*) (Vredenburg VT, Felt SA, Morgan EC, McNally SVG, Wilson S, et al. (2013) Prevalence of *Batrachochytrium dendrobatidis* in *Xenopus* Collected in Africa (1871–2000) and in California (2001–2010). PLoS ONE 8(5): e63791. doi:10.1371/journal.pone.0063791)

Justification: The designation of critical habitat doesn't address the reasons for the frogs decline and will serve no purpose towards its restoration. Studies have shown as high as a 10,000% increase in populations of amphibians when non-native trout are removed from their habitat Ongoing studies by the US Park Service have shown that restored populations remain disease free after three years of restoration.

Argument: Critical habitat designations are not required. Critical habitat designations will close many of these areas to economic and recreational activity while doing nothing to restore the species. A policy decision to remove non-native trout from high elevation lakes and watersheds will be the most effective means to restore these populations. As the US Forest Service recognized the majority of frog habitat is already in areas that are not subject to habitat modification or destruction. The addition of the designation of critical habitat serves no purpose.

"Mountain yellowlegged frogs occur at high elevations in the Sierra Nevada, which have not had the types or extent of large-scale habitat conversion and physical disturbance that have occurred at lower elevations (Knapp and Matthews 2000, p. 429). Thus, direct habitat destruction or modification associated with intensive human activities has not been implicated in the decline of this species (Davidson *et al.* 2002, p. 1597)." Federal Register posting, page 24480.

- ***Removal of non-native trout from high elevation watersheds will provide the most significant increase in amphibian populations.***

Knapp and Matthews (2000, p. 428) surveyed more than 1,700 water bodies, and concluded that a strong negative correlation exists between introduced trout and mountain yellow-legged frogs (Knapp and Matthews 2000, p. 435).

- ***Logging, mining, recreation and roads are not significant factors in the decline and should be excluded as activities that impact the frogs recovery.***

"There remain some mountain yellow-legged frog populations in areas where timber harvests occur or may occur in the future. Roads also exist within the range of the mountain yellow-legged frog, and more may be constructed. However, neither of these factors has been implicated as an important contributor to the decline of this species (Jennings 1996, pp. 921–941). It is likely a minor prevalent threat to mountain yellowlegged frogs factored across the range of the species. (Federal Register, Vol.78, No.80, page 24484)

- ***The introduced virus, Bd, is largely responsible for amphibian die-offs nationally and globally, and unless this problem is solved all amphibians are at risk. The designation of critical habitat does nothing to solve this problem.***

"The effects of Bd on host populations of the mountain yellow-legged frog are variable, ranging from extinction, to persistence with a high level of infection, to persistence with a low level of infection (Briggs *et al.* 2002, pp. 40–41). In populations where Bd infection first occurs, the most common outcome is epidemic spread of the disease and population extirpation (Briggs *et al.*2010, p. 9699). Die-offs are characterized by rapid onset of high level Bd infections, followed by death due to chytridiomycosis." (Federal Register Volume 78, No.80, page 24486.)

- ***Contrary to the US Fish and Wildlife Service's position that climate change is responsible for the amphibians die-off, research by Knapp found no evidence of this.***

"Therefore, contrary to the widely-accepted paradigm that cold environments should strongly limit effects of Bd on amphibians, we found little or no evidence of such limitation at even the highest elevations. Therefore, in temperate montane ecosystems it is unlikely that high elevations will provide amphibians with a refuge from Bd." (Knapp et al., 2011)

Yosemite Toad Information (Proposed Threatened)

Factor USFWS lists as causing the decline

- Habitat modification and degradation
- Disease and predation

- ***Effects from grazing aren't proven and the USFWS acknowledges that grazing on US Forest Service lands has been naturally on decline since 1920. Restrictions based on grazing aren't necessary – The USFWS should focus on meadow restoration, not critical habitat.***

"Although we lack definitive data to assess the link between Yosemite toad population dynamics and habitat degradation by livestock grazing activity (see Factor E below), in light of the documented impacts to meadow habitats (including effects on local hydrology) from grazing activity in general, we consider this threat prevalent with moderate impacts to the Yosemite toad and a potential limiting factor in population recovery rangewide." (Federal Register Vol 78, No.80, page 24504)

- ***Road usage and logging are not specific threats to the Yosemite Toad***

"…it is also possible that moderate harvest activity adjacent to meadow habitats could benefit meadows and upland habitat by discouraging encroachment and opening the forest canopy (Liang *et al.* 2010, p. 16). Despite this possibility, there is no evidence that the current level of timber harvest occurring within watersheds currently inhabited by the Yosemite toad is adversely affecting habitat. Therefore the best available scientific and commercial information does not indicate whether ongoing road construction and maintenance or timber harvest are significant threats to the Yosemite toad." (Federal Register Vol 78, No.80, page 24504)

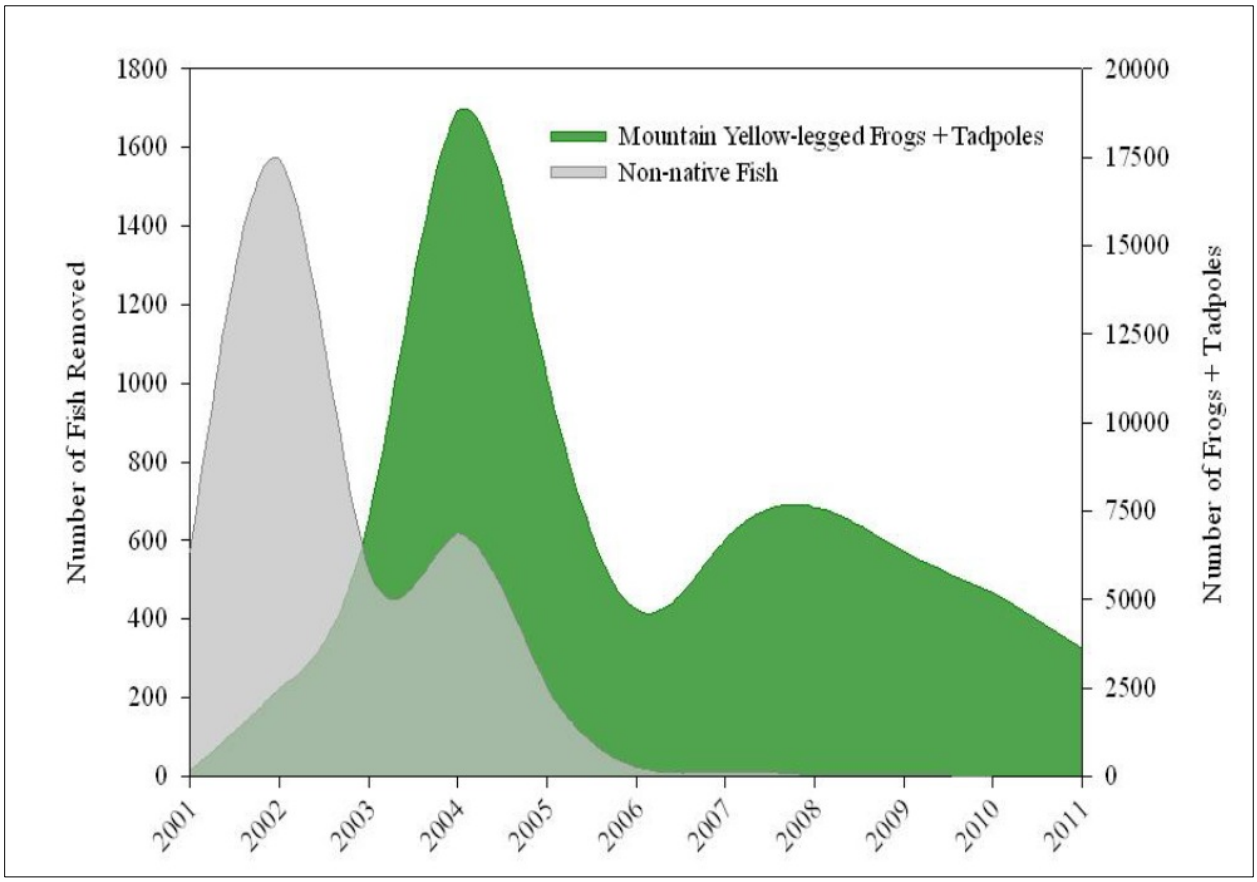
- ***The effects of recreation are not specific threats to the Yosemite toad and are unproven.***

"The effects of recreational activities on the Yosemite toad are not quantified, but they may have impacts in certain areas and under certain conditions." (Federal Register Vol 78, No.80, page 24505)

- ***Effects of disease is contributing to the decline***

"Disease has been documented in Yosemite toad populations, and recent data documenting historic trends in Bd infection intensity are compelling (Dodge and Vredenburg 2012, p. 1), but disease has not been definitively tied to the observed rangewide decline." Federal Register Vol 78, No.80, page 24511.

RESTORATION POTENTIAL USING ONLY FISH MANAGEMENT APPROACHES



Source of graph, US Park Service

"From 1997 to 1999, researchers experimentally used gill nets to eradicate non-native fish from three lakes in the parks, which showed that fish eradication was feasible. In 2001, the parks began to implement preliminary (experimental) restoration of MYLFs. The primary goal was to assess the feasibility of parks staff using gill nets and electrofishers to eradicate non-native fish from low- to moderate-use individual lakes having short associated streams. The purpose of the program was to restore aquatic habitat for native species, with an emphasis on improving the status of imperiled MYLFs.

By 2010, fish were fully eradicated from eight lakes and nearly eradicated from three lakes, and MYLFs in nine of these lakes remained disease-free three years after fish removal. During this time average tadpole density in these nine lakes increased by 13-fold (from 2.4 to 30.8 per 100 ft of shoreline), while average frog density increased by 14-fold (from 2.4 to 33.8 per 100 ft of shoreline). Several of these MYLF populations are now among the largest in the Sierra Nevada. In addition, significantly more garter snakes were detected per survey in fish-removal lakes (0.15) versus fish-containing lakes (0.02). Snake detections also increased over time, exhibiting a positive linear relationship with the number of years since fish removal began. These results show that using parks staff to eradicate non-native fish using gill nets and electrofishers is feasible, and beneficial to MYLFs and other native species. Non-native fish eradications are currently in progress in seven waters, and scheduled to be initiated in 2012 in five waters. " US Park Service, MYLF Restoration Summary.

FURTHER REFERENCES

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