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By E-mail and Certified Mail

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Re: Sixty-Day Notice Of Intent to Sue: Violations Of The Endangered Species Act And Other Federal Statutes In Connection With The Animal And Plant Health Inspection Service's Tamarisk Beetle Biocontrol Agent Permitting And Saltcedar Biocontrol Program

On behalf of the Center for Biological Diversity and Maricopa Audubon Society (hereafter collectively referred to as "CBD"), we hereby provide notice, pursuant to Section 11(g) of the Endangered Species Act ("ESA"), 16 U.S.C. § 1540(g), that the Animal and Plant Health Inspection Service ("APHIS") of the Department of Agriculture ("USDA") has violated and is

continuing to contravene various provisions of the ESA, 16 U.S.C. § 1531 *et seq.*, as well as the Act's implementing regulations, in connection with the Agency's *Program for Redistribution in 13 States of* Diorhabda *Species for the Biological Control of Saltcedar (*Tamarix *spp.)* ("Saltcedar Biocontrol Program") and its associated Plant Protection and Quarantine ("PPQ") Permitting. Specifically, APHIS is violating the ESA by simply terminating its Saltcedar Biocontrol Program and relating permitting activities – without taking any steps to mitigate the ongoing adverse effects on the southwestern willow flycatcher ("flycatcher" or "SWWF"), in reliance on a legally deficient consultation APHIS conducted with the U.S. Fish and Wildlife Service ("FWS"). During that reinitiated consultation, the FWS and APHIS arbitrarily narrowed the scope of the consultation in a manner that violated the consultation provisions of the ESA and its implementing regulations, and the FWS thereby unlawfully concurred with APHIS's determination that simply terminating portions of the Saltcedar Biocontrol Program and taking various other, related actions are "not likely to adversely affect" the flycatcher or its ESA-designated Critical Habitat. In addition, by developing no plan to mitigate the adverse effects of the *Diorhabda carinulata* ("tamarisk beetles") released under the Saltcedar Biocontrol Program on the flycatcher and its Critical Habitat, APHIS is contravening its affirmative duty under the ESA to carry out programs for the conservation of the listed flycatcher.

While this letter satisfies the requirements of 16 U.S.C. § 1540(g) to provide notice to APHIS of its ESA violations, we also explain below other legal violations related to APHIS's actions in connection with the Saltcedar Biocontrol Program and related permitting activities. These include APHIS's violations of USDA's regulations implementing the National Environmental Policy Act, 42 U.S.C. § 4321 et seq. ("NEPA"), *see also* 7 C.F.R. § 372.9(f), which requires APHIS to implement a northern tamarisk beetle mitigation strategy APHIS explicitly committed itself to under the provisions of a 2005 Environmental Assessment for the Saltcedar Biocontrol Program. *See* 70 Fed. Reg. 44,554 (Aug. 3, 2005).

While we believe CBD would prevail should this matter be litigated, our intention is that by sending this detailed letter, APHIS and the FWS will seriously consider our concerns and respond within sixty days to discuss the steps the agencies may be willing to take to remedy these legal violations, and in order to avoid needless litigation.

BACKGROUND

A. Statutory and Regulatory Framework

1. Endangered Species Act

The ESA "represent[s] the most comprehensive legislation for the preservation of endangered species ever enacted by any nation." *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 180 (1978). Indeed, Section 9 of the ESA generally prohibits "any person" from "tak[ing] any" member of an endangered or threatened species without appropriate authorization under the Act.

16 U.S.C. § 1538(a).[1]

Pursuant to Section 7 of the ESA, before undertaking any action that may have direct or indirect effects on listed species, an action agency must engage in consultation with the FWS in order to evaluate the impact of the proposed action. *See* § 1536(a). The FWS has defined the term "action" for the purposes of Section 7 broadly to mean "all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies," 50 C.F.R. § 402.02, "in which there is discretionary federal involvement or control." *Id.* § 402.03. Accordingly, courts have interpreted the term "agency action" for the purposes of the ESA broadly to include ongoing activities and projects, *see e.g.*, *Klamath Water Users Protective Ass'n v. Patterson*, 191 F.3d 1115, 1122 (9th Cir. 1999) (holding that the agency's retention of managerial discretion over a dam facility was action triggering consultation on the continuing operation of the dam), and post-action activities, *see e.g.*, *Conner v. Buford*, 848 F.2d 1441, 1452–53 (9th Cir.1988) (interpreting agency action broadly to include post-leasing activities).

The purpose of consultation is to ensure that the action at issue "is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [designated] habitat of such species." 16 U.S.C. § 1536(a)(2). As defined by the ESA's implementing regulations, an action will cause jeopardy to a listed species if it "reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." 50 C.F.R. § 402.02. Notwithstanding this definition of jeopardy, during consultation the action agency and the FWS must consider not only diminishment of critical habitat necessary to survival, but also diminishment of critical habitat necessary to recovery of a listed species. *See Gifford Pinchot Task Force v. FWS*, 387 F.3d 968, 1071 (9th Cir. 2004). The evaluation of the effects of the proposed action on listed species during consultation must use "the best scientific . . . data available." 16 U.S.C. § 1536(a)(2).

Notably for the purposes of this matter, consultation under Section 7 may be "formal" or "informal" in nature. Informal consultation is "an optional process" consisting of all correspondence between the action agency and the FWS, which is designed to assist the action

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[1] The term "take" is defined broadly to include "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect." 16 U.S.C. § 1532(19). The FWS has further defined "harass" to include "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, including breeding, feeding, or sheltering." 50 C.F.R. § 17.3. In addition, the FWS has defined "harm" to "include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering." *Id.*

agency, rather than the FWS, in determining whether formal consultation is required. *See* 50 C.F.R. § 402.02. During an informal consultation, the action agency requests information from the FWS as to whether any listed species may be present in the action area. If listed species may be present, the action agency is required by Section 7(c) of the ESA to prepare and submit to the FWS a "biological assessment" that evaluates the potential effects of the action on listed species and critical habitat. As part of the biological assessment, the action agency must make a finding as to whether the proposed action may affect listed species and submit the biological assessment to the FWS for review and potential concurrence with its finding. 16 U.S.C. § 1536(c). If the action agency finds that the proposed action "may affect affect, but is not likely to adversely affect" any species listed species or critical habitat and the FWS concurs with this finding, then the consultation process is terminated. 50 C.F.R. § 402.14(b).

On the other hand, if the action agency finds that the proposed action "may affect" listed species or critical habitat by having any potentially adverse effect that may occur and is not insignificant or discountable, then formal consultation is required. 50 C.F.R. § 402.11; *see also* FWS, ENDANGERED SPECIES CONSULTATION HANDBOOK, at 3–13 (1998) ("CONSULTATION HANDBOOK"). Following completion of the biological assessment, the action agency must initiate formal consultation through a written request to the FWS. 50 C.F.R. § 402.14(c). The result of a formal consultation is the preparation of a biological opinion ("BiOp") by the FWS, which is a compilation of the best available scientific data on the status of the species and how it would be affected by the proposed action. When preparing a biological opinion, the FWS must: (1) "review all relevant information;" (2) "evaluate the current status of the listed species;" and (3) "evaluate the effects of the action and cumulative effects on the listed species." 50 C.F.R. § 402.14(g)–(h). Additionally, a BiOp must include a description of the proposed action, a review of the status of the species and critical habitat, a discussion of the environmental baseline, and an analysis of the direct and indirect effects of the proposed action and the cumulative effects of reasonably certain future state, tribal, local, and private actions. CONSULTATION HANDBOOK, at 4–14 to 4–31.

At the end of the formal consultation process, the FWS issues either a no-jeopardy or a jeopardy BiOp. With a no-jeopardy BiOp, the FWS determines that the proposed action is not likely to jeopardize the continued existence of listed species or adverse modification of critical habitat. If, as part of a no-jeopardy BiOp, the FWS determines that the proposed action will nevertheless result in the incidental taking of listed species, then the FWS must provide the action agency with a written Incidental Take Statement specifying the "impact of such incidental taking on the species" and "any reasonable and prudent measures [RPMs] that the [FWS] considers necessary or appropriate to minimize such impact" and setting forth "the terms and conditions . . . that must be complied with by the [action] agency . . . to implement [those measures]." 16 U.S.C. § 1536(b)(4). With a jeopardy BiOp, the FWS may offer the action agency reasonable and prudent alternatives ("RPAs") to the proposed action that will not result in jeopardy to a listed species or adverse habitat modification, if they exist. § 1536(b)(3)(A). Additionally, the FWS may include in a BiOp discretionary "conservation recommendations" to

assist the agency in "minimiz[ing] or avoid[ing] averse affects of a proposed action." 50 C.F.R. §§ 402.02, 402.14(j).

Where a BiOp has been issued and "discretionary Federal involvement or control over the action has been retained or is authorized by law," the action agency is required by regulation to reinitiate consultation with the FWS in certain circumstances, including: (1) "[i]f new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered," and (2) "[i]f the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion." 50 C.F.R. § 402.16. Notably, an action agency is required to reinitiate consultation if the above circumstances are met and it has discretion to "influence [public] or private action" or simply an "ability to implement measures that inure to the benefit of the protected species." *Sierra Club v. Babbitt*, 65 F.3d 1502, 1509 (9th Cir. 1995). If an action agency fails to reinitiate consultation when either of these conditions is triggered, it is a violation of Section 7, 16 U.S.C. § 1536. Generally, "the scope of reinitiated consultation should be consistent with and tailored to the nature and scope of the federal action that triggered reinitiation." *See* Deborah Freeman, *Reinitiation of ESA Section 7 Consultation Over Existing Projects*, *in* Endangered Species Act, Law, Policy & Perspectives 120-21 (2002).

2. National Environmental Policy Act and USDA's Implementing Regulations

The National Environmental Policy Act ("NEPA") was enacted more than four decades ago "[t]o declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment." 42 U.S.C. § 4321 (2006). In light of this mandate, the Supreme Court has reasoned that NEPA is "intended to reduce or eliminate environmental damage and to promote 'the understanding of the ecological systems and natural resources important to' the United States." *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 756 (2004) (quoting 42 U.S.C. § 4321).

In achieving NEPA's substantive goals, Congress created two specific mechanisms whereby federal agencies must evaluate the environmental and related impacts of a particular federal action – an environmental assessment ("EA") and an environmental impact statement ("EIS"). *See* 42 U.S.C. § 4332(c). These procedural mechanisms are designed to inject environmental considerations "in the agency decisionmaking process itself," and to "'help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.'" *Pub. Citizen*, 541 U.S. at 768–69 (emphasis added) (quoting 40 C.F.R. § 1500.1(c)). Therefore, "NEPA's core focus [is] on improving agency decisionmaking," *Pub. Citizen*, 541 U.S. at 769 n.2, and specifically on ensuring that agencies take a "hard look" at potential environmental impacts and environmentally enhancing alternatives "as part of the agency's process of deciding whether to pursue a particular federal action." *Baltimore Gas and Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 100 (1983). NEPA compliance must take place *before* decisions are made in order to ensure that

those decisions take environmental consequences into account. *See, e.g., Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 993 (9th Cir. 2004).

An EIS must be prepared by an agency for every "major Federal action significantly affecting the quality of the human environment." 42 U.S.C. § 4332(c). Among other requirements, an adequate EIS must contain a discussion of: (1) the environmental impact of the proposed action; (2) any adverse environmental effects which cannot be avoided should the proposal be implemented; and (3) alternatives to the proposed action. *Id.* By requiring adequate discussion of any adverse environmental effects which cannot be avoided in an EIS, NEPA implicitly requires a "reasonably complete discussion" of measures to mitigate such adverse environmental effects, as the Supreme Court and regulations of Council on Environmental Quality ("CEQ") recognize. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352 (1989); 40 C.F.R. § 1502.14(f); *see also* § 1502.2(2) (requiring inclusion of mitigation measure discussion in record of decision). Prior to formulating an EIS, a federal agency may prepare an EA, which is a "concise public document" that serves to "[b]riefly provide sufficient evidence and analysis for determining" whether a federal action is significant enough to require preparation of an EIS. 40 C.F.R. § 1508.9. An EA must contain "brief discussions of the need for the proposal, of alternatives [to the action], of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted." *Id.* An agency prepares a "finding of no significant impact" ("FONSI") if it determines that an EIS is not required. § 1501.4(e).

B. Factual Background

1. The Endangered Flycatcher and Its Use of Saltcedar

The flycatcher is a small, neotropical migrant, mid-summer breeding, riparian-obligate bird. While flycatcher was listed as endangered on March 25, 1995 due to the adverse effects of riparian habitat loss caused by urban and agricultural development, hydrological modifications, fires, invasive plants, and overgrazing by domestic livestock. Typically, the breeding range of the flycatcher extends from southern California, through Arizona, to central New Mexico, to the southwestern third of Colorado, to southern Utah, and Nevada. The traditional nesting habitat of the flycatcher includes tree and shrub species such as willows, boxelder maple, and cottonwood. However, because such native habitats have been decimated by human activities, the flycatcher now extensively nests in saltcedar in mid-elevational areas of central Arizona and occasionally in a few locations on the Rio Grande in New Mexico, on the Santa Margarita River in southern California, and on the Virgin River in southern Nevada.[2]

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[2] On January 3, 2013, the FWS issued a final rule revising designated critical habitat for the SWWF to include 1,227 stream miles in California, Nevada, Utah, Arizona, and New Mexico. *See* 78 Fed. Reg. 344 (Jan. 3, 2013).

Saltcedar *(Tamarix* spp.*)* is a long-lived, dense, deep-rooted, and deciduous shrub or small tree that can grow to thirty feet in height. Native to Asia and the Mediterranean, saltcedar was introduced to the United States in the latter part of the 19th century. After successfully establishing populations along most of the major southwestern rivers, saltcedar rapidly invaded and replaced vast areas of native lowland riparian habitats that already were suffering from numerous human-caused hydrological changes. This transformation has had particularly significant implications for the survival and recovery of the flycatcher. In essence, stripped of much of its native riparian habitat in states such as Arizona, the flycatcher has become dependent on saltcedar stands in places where little or no natural plant communities remain. Consequently, eradicating saltcedar ***without also engaging in strenuous efforts to restore native plant communities*** has severe adverse impacts on the flycatcher, compounding the destruction of the species' natural habitat by *also* destroying the substitute habitat to which the species has struggled to adapt. Unfortunately, APHIS and other components of USDA, with the concurrence of the FWS, have taken a series of actions that have had precisely this unfortunate – and unlawful – effect.

2. APHIS's Permitting of Tamarisk Beetle Releases And Its 2005 Program for Control of Saltcedar

In an effort to control the spread of saltcedar, APHIS, along with the Agriculture Research Service ("ARS"), another component of USDA, first proposed to release the tamarisk-defoliating leaf beatle (the "beetle") in the late 1990s. The FWS "raised concerns that if the beetle were generally released and rapidly killed all saltcedar, native vegetation would not return or would not return rapidly enough, leaving the [flycatcher] without nesting substrate and causing further decline of the species." USDA, *Program for the Biological Control of Saltcedar: Environmental Assessment* (June 2005) (hereafter "2005 EA"), at 4; *id.* at 29 ("In a letter from FWS to APHIS regarding release of agents for the biological control of saltcedar , dated June 3, 1999, FWS indicated that the [flycatcher] was nesting in saltcedar near the Rio Grande in New Mexico and was concerned that the nests of flycatchers may be affected by saltcedar control as a result of temperature increases and parasitism by the brown-headed cowbird."). Nonetheless, APHIS "issued permits in 1999 for release of [the beetle] into field cages at specific locations approved by" the FWS, including locations in Texas, Colorado, Wyoming, Utah, Nevada, and California. *Id.* at 4. In 2001, APHIS issued permits "to release [beetles] outside of the cages at or near the cage sites." *Id.* The Service subsequently approved additional "experimental releases" at sites in New Mexico, Oregon, and Montana, among other locations. *Id.*

In 2005, APHIS adopted a significant expansion of its Saltcedar Biocontrol Program in which it decided on the further release of beetles at "selected field 'insectary' or 'nursery' sites in up to 13 western and midwestern states, north of 38° north latitude." 2005 EA at 10. In doing so, APHIS recognized that the flycatcher "now nests extensively in saltcedar," including in "mid-

elevational areas of central Arizona," as well as in "locations on the Rio Grande in New Mexico, on the Santa Margarita River in southern California, and on the Virgin River in southern Nevada." *Id.* at 15; *id.* at 30 (the flycatcher is "nesting in saltcedar frequently in Arizona"). APHIS also acknowledged that it is "possible" that "in the short run, saltcedar may be killed but native vegetation will not reestablish rapidly, *leaving areas temporarily with no vegetation*" whatsoever; in addition, "it is possible that in certain areas . . . revegetation may not occur naturally" *at all* "after [the beetle] has suppressed saltcedar." *Id.* at 26.

Yet APHIS's NEPA document nevertheless concluded that the beetle release program would "no effect" on the flycatcher because the flycatcher "is not known to nest in saltcedar in the areas included in the proposed program," and because beetle "releases in the States included in the proposed program will be north of 38° north latitude" whereas the "areas where [flycatchers] are nesting in saltcedar are south of 38° north latitude." *Id.* at 30. Further according to APHIS's EA, even if the beetle "were to reach these areas in Arizona and New Mexico," the beetle would "fail to overwinter" and hence "fail to establish populations" harmful to the flycatcher. *Id.*[3]

Significantly, however, in a section of the 2005 EA discussing the "degree" of adverse environmental impacts of its proposed program, and also in the "vertebrate monitoring" section of a "management plan" for implementation of its program attached as an appendix to the EA, APHIS committed itself to a "[m]itigation strategy for D. e. deserticola." *Id.* at 27, 51. In this provision, APHIS stated the following:

> In the unlikely event that released [beetle] populations present a real or potential hazard to human health *or to nontarget plants and animal species*, [APHIS] *will* make an immediate site visit to assess the situation, in conjunction with local cooperators and land managers. If reduction or removal of the beetle population is warranted, a mitigation plan *will be developed.* Possible strategies to be incorporated in such a plan include: (1) use of appropriate, approved insecticides; (2) destruction of host plants or plant material; (3) caging or other confinement of *D. e. deserticola* or threatened organism(s); and (4) *other tactics as needed.*

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[3] This assumption was based on an expectation by APHIS that the beetle would enter "diapause," which is a state of suppressed development and reproduction, in response to the shorter summer daylengths south of the 38th parallel. In particular, APHIS asserted that "[i]n regions south of 38° north latitude where daylength and temperature induce premature diapause," the particular strain of beetle that APHIS proposed to release (*D. e. deserticola*, originating from Fukang, China) would not be able to survive the winter and hence would pose no risk to the flycatcher. 2005 EA at 30.

2005 EA at 27 (emphasis added); *see also* 70 Fed. Reg. 44,554 (Aug. 3, 2005) (adopting the final EA and a FONSI based on the EA).

In addition to preparing an EA, in March 2005, APHIS initiated informal ESA consultation with the FWS regarding its Saltcedar Biocontrol Program. On July 11, 2005, the FWS issued a letter of concurrence in which it found that the impact of the APHIS Saltcedar Biocontrol Program on ESA-listed species would be "insignificant, discountable, or otherwise beneficial, because the impacts to listed species or critical habitat would not be measurable or detectable." The FWS's concurrence was based on several key assumptions similar to those in APHIS's 2005 EA, including that there was a low likelihood of successful reproduction of beetles in areas south of the 38th parallel.[4]

In July 2006, APHIS's actions also led directly to the release of beetles into flycatcher critical habitat in St. George, Utah, by St. George employees. An APHIS employee had specifically advised the St. George City Council of the "benefits of using the beetle to control tamarisk," Attachment A (11/10/5 Minutes of St. George City Council Meeting), and in effect authorized the City to obtain and release beetles from a USDA-permitted facility by representing to a City official that "there are no legal restrictions that preclude STATE or PRIVATE entities from moving 'already permitted' saltcedar leaf beetles within the same state and releasing them on NON-federal lands." Attachment B (8/10/04 e-mail from APHIS employee Gregory Abbott) (caps in original). The same APHIS employee subsequently approved specific "beetle collection dates" for the City to "collect 30-,000- 40,000 beetles" for release, Attachment C (7/10/06 Lower Virgin River Fuels and Fire Council Meeting notes) and worked with the City on a "work plan" on a "three-year process to kill the plants." Attachment D (6/19/06 Lower Virgin River Fire Council Meeting Notes). The APHIS-assisted and promoted release into Utah took place on July 12, 2006. Attachment E. According to e-mails between FWS employees – who described the situation in Utah as one that "doesn't seem to be good" – "APHIS played an underhanded role in the introduction of the beetle in Utah, and USDA is very concerned." Attachment F. According to the FWS employees monitoring the situation, the APHIS employee involved in the release "essentially" extended an "open invitation to circumvent Federal regulations," and APHIS was anxious to avoid having "attention brought to their circumvention of Federal regulations, which in any other agency might be cause for dismissal." *Id.* ("USDA is interested in doing 'damage control' in Utah . . . They are VERY upset at what Utah APHIS has done . . . The actions of Utah APHIS, with concurrence and support of the state and local agencies, have been the fear all along

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[4] Since 2005, APHIS has established a total of fifty tamarisk beetle nursery sites in ten of the thirteen states (Missouri, Nevada, and North Dakota being the exceptions), in cooperation with federal, state, and local agencies. From 2005 to 2008, APHIS collected and released more than 180,000 adult tamarisk beetles at these nursery sites. By 2009, twenty-five of the nursery sites had established tamarisk beetle populations, and, of those, approximately ten sites had populations large enough for collection and redistribution intrastate.

and reinforce the need for completing Section 7 and NEPA. These types of actions compromise both the good science and the good working relationship that is essential to effective development and use of biological control agents to achieve ecological goals.").

3. New Information Regarding Adverse Effects of the Beetle on the Flycatcher's Habitat and APHIS's Reinitiation of Consultation with the FWS

On September 10, 2008, the FWS contacted APHIS to inform the agency that tamarisk beetles had been found in formally designated critical habitat of the flycatcher in Arizona. According to the agencies, this occurrence was caused by the collection and release of beetles from one of the APHIS-permitted research sites in Utah. On December 12, 2008 CBD submitted a formal notice to the agencies that they were in violation of section 7 of the ESA for failing to reinitiate consultation in connection with the beetle releases, and on March 27, 2009, CBD filed suit concerning that violation.

In February 2009, APHIS staff attended a saltcedar research conference in Reno, Nevada, in which they received additional information regarding the beetles and their impacts on flycatcher habitat. This information included: (1) data indicating that tamarisk beetles in Pueblo, Colorado, were in fact capable of successfully reproducing south of the 38th parallel north, and (2) a presentation that beetles defoliated three sites on the Virgin River near St. George, Utah, which were occupied by the flycatcher at the height of their breeding season and that the defoliation might have a large impact on nesting flycatchers.

Consequently, on May 15, 2009, Dr. Kenneth R. Seeley, Chief of Environmental Services for APHIS, sent a letter to the FWS stating that "based on new information, APHIS believes there may be adverse effects of the release of [the beetle] on listed species and critical habitat that were not previously available or considered in the 2005 consultation." On that basis, and in light of the criteria for reinitiation of consultation set forth in the FWS's regulations, APHIS formally requested reinitiation of consultation, and also requested the Service's "technical assistance in preparation of a revised BA including an up-to-date status of the [flycatcher] and environmental baseline for the flycatcher."[5]

On May 13, 2010, APHIS submitted a BA to the FWS that covered its beetle permitting activities and expanded Saltcedar Biocontrol Program. As subsequently characterized by the FWS, contrary to the assumption in the 2005 consultation that the beetle was "unlikely to be capable of reproducing south of 38° North latitude," new evidence summarized in the BA "has

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[5] Dr. Seeley's letter also referred to APHIS's "understanding," following the October 15, 2008, discussion between APHIS and the Service that the Service "would prepare an internal memo to set forth guidance for the actions APHIS needed to carry out, and would contact APHIS with its recommendation."

indicated that [the beetle] may be capable of reproducing south of this limit, possibly to as far south as 32° North, *and that the beetles are now present in and adversely affecting habitat, including designated critical habitat, of the [flycatcher]* in the Virgin River drainage." 10/6/10 letter from Richard E. Sayers, FWS, to Dr. Kenneth R. Seeley, APHIS (emphasis added). APHIS advised the Service that it was taking three actions in response to this development and it requested the Service's concurrence that *these specific actions* were "not likely to adversely affect" the SWWF or its designated critical habitat, and thus that formal consultation regarding the ongoing adverse effects of its permitting activities and Saltcedar Biocontrol Program on the SWWF was not required. These three actions by APHIS included: (1) terminating its Saltcedar Biocontrol Program, "except for monitoring of sites;" (2) discontinuing issuance of new permits for release of tamarisk beetles and studies using tamarisk beetles outside of a containment facility, as well as cancelling active permits for interstate movement and release of tamarisk beetles; and (3) "discouraging" intrastate movement of tamarisk beetles by means of an "information memorandum" to various federal and state agencies. *Id.* APHIS also "indicated that it will participate in an interagency effort organized by the National Invasive Species Council [NCIS] to address issues arising from the effects of [beetle] releases on the flycatcher," *id.*, but APHIS did not identify any specific actions that it would commit to undertaking – such as restoring with native vegetation saltcedar habitat destroyed or impaired by beetles – in order to mitigate past, present, and future damage associated with the beetle release activities.[6]

On June 15, 2010, the Director of Invertebrate and Biological Control Programs for APHIS sent a memorandum to various state and federal officials advising them that "[c]oncerns about the potential effects to the critical habitat of the federally-listed, endangered have resulted" in various actions by APHIS, including terminating the "saltcedar biological control program" and discontinuing the issuance of new permits for beetle releases. 6/15/10 Memorandum from Alan K. Dowdy to PPQ State Plant Health Directors ("USDA APHIS PPQ Moratorium for Biological Control of Saltcedar (*Tamarix* species) using the biological control agent *Diorhabda* species). The memorandum further stated that until "these concerns [involving impacts on the flycatcher] are alleviated and the program activities are officially reinstated, any unauthorized human-assisted movement [of the beetle], particularly into the critical habitat of the southwestern willow flycatcher, is not authorized by APHIS, *and may constitute a violation of the Endangered Species Act which could result in criminal punishment and/or fines*." *Id.* (emphasis added).

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[6] The National Invasive Species Council is an interagency, cabinet-level body established by Executive Order in order to coordinate national policy designed to "prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause." E.O. 13112 (Feb. 3, 1999). Accordingly, by representing that the beetle's adverse impacts on the flycatcher would be reviewed by the NISC, APHIS was, in effect, conceding that the beetle is now an "invasive species," which is defined by the Executive Order as a "alien species whose introduction does or is likely to cause . . . environmental harm." *Id.*

However, other than asserting that it would "continue to assess the impact on saltcedar density and reestablishment of native vegetation," *id.*, APHIS again failed to specify any particular remedial steps it was committing to take in order to mitigate the impact of the beetle releases.

Nonetheless, on October 6, 2010, the FWS sent a letter to APHIS in which the Service simply concurred with APHIS that the narrow actions specified in APHIS's BA – *i.e.*, discontinuing *further* releases of the beetle and "discouraging any human-assisted intrastate movement" of the beetle – "may affect, but are not likely to adversely affect" the flycatcher. However, other than merely acknowledging APHIS's representation that it would "participate" in the "interagency effort organized" by NCIS "to address issues arising from the effects of [beetle] releases on the flycatcher," and stating that the Service would like to "better understand the measures being taken to mitigate adverse effects on the flycatcher," the Service's cursory concurrence letter delineated no specific measures that APHIS had committed to or would be required to take, let alone analyze the efficacy of those measures. Instead, the Service merely asserted that "[t]his concludes informal consultation under section 7 of the [ESA] on these actions."

The Service's failure to even meaningfully address the *ongoing* and future adverse impacts associated with APHIS's activities is especially inexplicable in view of the fact that CBD sent the Service and APHIS a letter on June 18, 2010, setting forth in detail what must be done in order to ameliorate the impacts of the beetle releases. *See* 6/18/10 letter from Robin Silver, M.D., to APHIS, USDA, and DOI ("Re: Minimal requirements for the removal of new jeopardy to the endangered Southwestern Willow Flycatcher resulting from the illegal release of the tamarisk-defoliating leaf beetle into occupied Critical Habitat by the U.S. Animal and Plant Health Inspection Service and the U.S. Department of Agriculture"). CBD explained that "USDA and APHIS actions have already resulted in the taking of an endangered species and in the adverse modification of critical habitat. The beetles are already in Grand Canyon National Park and are poised to move below Lake Mead in the very near future." *Id.* CBD also explained that, "[s]ince most surviving flycatchers now nest in tamarisk, movement below Lake Mead and into central Arizona will be disastrous" unless "additional, emergent creation and/or restoration of riparian willow habitat . . . take[s] place in the immediate path of the invading beetles." *Id.* CBD identified specific locations along the Lower Colorado River within the immediate path of the invading beetle that are suitable for [such] emergent creation and/or restoration of willow habitat." *Id.*

Since CBD sent this letter – to which it received only a cursory response stating that the Service "appreciate[s] your concerns" and that "implementation of effective solutions will be complex and require extensive collaboration," 7/12/10 Letter from FWS Acting Regional Director to Dr. Robin Silver – the beetle has continued to rapidly adapt to and thrive in occupied flycatcher habitat. *See* Attachment G (2011 map of Distribution of Tamarisk Leaf Beetle) (Tamarisk Coalition); Attachment H (map of Yearly Distribution (2007-2012) of Tamarisk Leaf Beetle), Attachment I (2008 FWS map reflecting "Spread of Tamarisk Leaf Beetles and

Proximity to Southwestern Willow Flycatcher Habitat") (attached to FWS handout entitled "Not Wanted in Arizona: Tamarisk Leaf Beetles," provided at Colorado River Basin Science and Resource Management Symposium).

For example, recent Bureau of Reclamation surveys have found that the "area of defoliation on the Virgin River has expanded downstream annually," with the "entire stretch of the Virgin River to Lake Mead [affected] by the end of the breeding season in 2011." *See* McLeod, M.A., and A.R. Pellegrini, *Southwestern Willow Flycatcher surveys, demography, and ecology along the lower Colorado River and tributaries,* at 3-4 (2012) (annual report submitted to the Bureau of Reclamation by SWCA Environmental Consultants); *see also id.* at 20 ("Mesquite, Nevada . . . Hafen Lane . . . Tamarisk beetles and heavily defoliated tamarisk were noted at the site in mid-June"); *id.* at 21 ("Mesquite West . . . Tamarisk beetles and defoliated tamarisk were noted within the site in mid- to late June"); *id.* ("Mormon Mesa, Nevada . . . Tamarisk beetles and heavy defoliation were noted throughout the study area by mid-July"); *id.* at 44 ("Defoliation will presumably occur earlier in the year in 2012 at the Mormon Mesa sites now that tamarisk beetles are established in the area and thus may have greater effect on flycatcher nesting next year."); *id.* at 81-82 (suggesting that the low number of breeding pairs of flycatchers at Mesquite is because the species' habitat "has been reduced by tamarisk beetle defoliation"). Indeed, as of 2012, the beetle was not only defoliating saltcedar along the Virgin River and Nevada Wash, it is also doing so in and near the Little Colorado River, the Colorado River through the Grand Canyon to Lake Mohave, and the Rio Grande to Albuquerque.

As the FWS has repeatedly recognized, including in its formal recovery plan for the species, flycatcher survival and recovery depends on the maintenance of sufficient habitat for small populations to survive, re-connect, and multiply. Yet APHIS and the other federal agencies responsible for release of the beetle have not only contributed directly to the impairment and degradation of the flycatcher's dwindling critical habitat, but they are compounding this problem by also failing to adopt any meaningful, timely measures to mitigate the adverse effects of their actions. As discussed below, this course of conduct violates the ESA and other federal environmental laws in myriad ways.

DISCUSSION

A. APHIS Is In Violation Of Section 7(a)(2) Of The ESA By Jeopardizing The Continued Existence of The Flycatcher And Adversely Modifying The Species' Critical Habitat.

Except in extraordinary circumstances not present here, the ESA mandates that federal agencies, in consultation with the FWS, "insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat of such species" that has been determined to be "critical." 16 U.S.C. § 1536(a)(2). Accordingly, with respect to

every discretionary action undertaken by an agency, the ESA "requires that [the] agency 'insure' that the actions it authorizes, funds, or carries out are not likely to jeopardize listed species or their habitats." *Nat'l Ass'n of Home Builders v. Defenders of Wildlife*, 551 U.S. 644, 666-67 (2007). APHIS (along with the ARS and other USDA components that have authorized, funded, and otherwise contributed to the beetle releases) are in flagrant violation of that overarching mandate. Through its permitting and other actions, APHIS is responsible for the release of beetles that are now decimating the critical habitat of a highly endangered species. Yet, beyond merely committing not to release or authorize the release of any *more* beetles into flycatcher habitat, APHIS has neither undertaken nor committed to implement any of the mitigation measures that are necessary to address the devastating impacts of these actions.

APHIS's merely declaring that it will not make an already intolerable situation even worse is not tantamount to avoiding species jeopardy or the destruction or adverse modification of critical habitat. As the Supreme Court has explained, to "'insure' something . . . means '[t]o make certain, to secure, to guarantee (some thing, event, etc.).'" *Nat'l Ass'n of Home Builders*, 551 U.S. at 667 (quoting 7 Oxford English Dictionary 1059 (2d ed. 1989)). Plainly, APHIS has not made "certain" or "guaranteed" that its actions are not likely to jeopardize the flycatcher or impair its critical habitat merely by announcing that it will not take even *more* actions that are harmful to the species' survival and recovery. Rather, APHIS can only satisfy the unequivocal statutory mandate of section 7(a)(2) by taking the concrete measures necessary to mitigate the impacts of its jeopardizing actions – most importantly, by replacing and restoring with native vegetation the flycatcher habitat that has been lost and is at future risk of being lost as a result of the beetle's impact on saltcedar.[7]

B. APHIS And FWS Are In Violation of the ESA And Implementing Regulations By Failing To Pursue Formal Consultation Concerning APHIS's Decision To Simply Suspend Its Beetle Release Activities Without Committing To Take Appropriate Actions To Mitigate The Effects Of Prior Beetle Releases.

As stated above, under 50 C.F.R. § 402.16, an action agency is required to reinitiate consultation with the FWS "[i]f new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered." After receiving new information beginning in 2008 regarding the adaptation of tamarisk beetles to latitudes south of 38th parallel north and the adverse effects of tamarisk beetles on flycatcher critical habitat, APHIS appropriately sought to reinitiate consultation with the FWS pursuant to 50 C.F.R. § 402.16 regarding both its tamarisk beetle permitting activities and its 2005 Saltcedar Biocontrol Program. Indeed, this new information completely undercut several key assumptions

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[7] To use an analogy, a person who sets in motion a runaway train that is headed for a populated area cannot reasonably be said to be "insuring" that the train will cause no harm by announcing that he will not let loose still *another* train. To the contrary, action would be necessary to lessen the first train's chances of having a devastating impact.

regarding tamarisk beetles and their impacts to the flycatcher made during the informal consultation in 2005 covering its proposed Saltcedar Biocontrol Program. No longer could the FWS find, as it did in its 2005 concurrence letter, that the impact of the APHIS Saltcedar Biocontrol Program on the flycatcher would be "insignificant, discountable, or otherwise beneficial, because the impacts . . . would not be measurable or detectable."

However, rather than broadly consider the adverse effects to the flycatcher and its critical habitat of all of APHIS's actions, including the ongoing and future effects of the beetle releases, the FWS and APHIS unlawfully narrowed the scope of the reinitiated consultation. Under the ESA, the scope of reinitiated consultation should be consistent with and tailored to the nature and scope of the federal action that triggered reinitiation. *See* Deborah Freeman, *Reinitiation of ESA Section 7 Consultation Over Existing Projects*, *in* Endangered Species Act, Law, Policy & Perspectives 120-21 (2002) (citing *N. Slope Borough v. Andrus*, 642 F.2d 589, 608 (D.C. Cir. 1980) ("The perceived magnitude and certainty of potential hazards to endangered wildlife would naturally differ depending on the scope of 'agency action' to which ESA 'consultation' will refer.")). The scope of the federal action triggering APHIS's need to reinitiate consultation on May 15, 2009 was APHIS's entire program of tamarisk beetle permitting, as well as its Saltcedar Biocontrol Program. However, instead of formally consulting over the present and future adverse effects of tamarisk beetles released as a result of these activities – a consultation that, at minimum, would inexorably have led to the imposition of stringent mitigation measures – the FWS and APHIS artificially and improperly narrowed the consultation to the discontinuation of *additional* permitting and releases and termination of the program.

In doing so, the FWS improperly failed to consider, in light of the best available scientific data, the indirect and cumulative effects of APHIS merely discontinuing its permitting and release actions *without committing to appropriate mitigation and remedial actions for past releases*. The FWS is not permitted to "wear blinders" and ignore the indirect, but casually related effects of agency actions. *Riverside Irrigation Dist v. Andrews*, 758 F.2d 508, 512 (10th Cir. 1985). In addition, the FWS failed to consider the cumulative effects of potential future state, local, and private actions, including additional instances where state and private entities may collect, distribute, and release tamarisk beetles originally released under permits issued by APHIS or under its Saltcedar Biocontrol Program. Given the magnitude of such direct, indirect, and cumulative effects, the FWS and APHIS should engage in formal consultation regarding the full complement of ongoing adverse effects associated with APHIS's permitting and other beetle release activities.

Notably, although APHIS has now suspended any *new* permitting or other beetle release activities, any notion that APHIS lacks discretion or authority to take or pursue appropriate remedial actions is belied by the agencies' own documents. As noted, APHIS's 2005 EA specifically provided that, in the "event that released [beetle] populations present a real or potential hazard . . . to nontarget plants and animal species" – which has now occurred – "a mitigation plan *will be developed*." 2005 EA at 10 (emphasis added). Further, APHIS's own regulations specifically require it to implement mitigation that the agency commits to in a NEPA

document. *See* 7 C.F.R. § 372.9(f). In addition, the February 1999 Executive Order concerning invasive species such as the beetle provides that "[e]ach Federal agency whose actions may affect the status of invasive species shall, to the extent practicable and permitted by law . . . ***provide for restoration of native species and habitat conditions in ecosystems that have been invaded***." E.O. 13112 (emphasis added).

In short, this is plainly a situation in which APHIS has both "retained" and is "authorized by law" to engage in "discretionary Federal involvement or control" for the purposes of mitigating the adverse effects of the beetle releases. 50 C.F.R. § 402.16. It is likewise clear that APHIS's decision to suspend future releases while committing to no concrete measures to mitigate ongoing and future impacts "may affect listed species or critical habitat in a manner or to an extent not previously considered." *Id.* Consequently, APHIS and FWS must reinitiate consultation, and FWS must produce a BiOp that fully addresses all of the direct, indirect, and cumulative effects associated with APHIS's activities. And because those activities are both jeopardizing the continued existence of the flycatcher and destroying and adversely modifying the species' critical habitat, the Service's BiOp should also set forth an RPA – *i.e.*, an alternative to APHIS's merely throwing up its hands and walking away from the new risk to the flycatcher for which the agency is ultimately responsible – that would avoid those impacts by committing APHIS to appropriate and necessary mitigation. *See also Klamath Water Users Protective Ass'n v. Patterson*, 191 F.3d 1115, 1122 (9th Cir. 1999) (holding that the agency's retention of managerial discretion over a dam facility was action triggering consultation on the continuing operation of the dam); *Conner v. Buford*, 848 F.2d 1441, 1452–53 (9th Cir.1988) (interpreting agency action broadly to include post-leasing activities).

The FWS's willingness to allow APHIS to avoid meaningful, comprehensive consultation over the full array of adverse effects associated with the beetle releases is especially unfathomable – and unlawful – in light of the formal recovery plan for the flycatcher, which repeatedly stresses the vital importance of preserving and restoring flycatcher habitat. *See, e.g.*, Final Recovery Plan for the Southwestern Willow Flycatcher (August 2002) at 82 ("All efforts should focus on preventing loss of flycatcher habitat. However, where occupied, unoccupied, suitable, or unoccupied potential habitat is to be lost, modified, fragmented, or otherwise degraded, habitat should be replaced, permanently protected, and managed within the same Management Unit."). Indeed, in terms that apply squarely to the situation here, the recovery plan provides that "[p]ermanent habitat loss, modification, or fragmentation resulting from agency action ***should be offset with habitat that is permanently protected, including adequate funding to ensure that habitat is managed permanently for the protection of the flycatcher***." *Id.* at 82 (emphasis added). Yet, rather than apply that provision in its own recovery plan to the situation at hand, the Service has, in effect, given APHIS carte blanche to walk away from the severe and ongoing damage caused by the beetle release permitting and program. That is not only an arbitrary and unlawful application of the Service's authority in ensuring the consultation process is used in such a matter as to avoid species jeopardy and destruction of critical habitat, but it also constitutes a distinct violation of section 4(f) of the Act, which mandates that the Service "shall develop *and implement*" recovery plans for listed species. 16 U.S.C. § 1533(f)(1) (emphasis

added). Plainly, the Service cannot be said to be "implement[ing]" the recovery plan where, as here, it is allowing a federal agency to essentially ignore the devastating impacts its actions are having, and will continue to have, on an endangered species.

C. APHIS Violated Its Affirmative Conservation Duty Under § 1536(a)(1) Of The ESA By Taking No Actions To Mitigate The Adverse Effects Of Beetles Released Under Its Biocontrol Program On The Endangered Southwestern Willow Flycatcher Prior To Terminating The Program.

In addition to the obligation to avoid jeopardizing species under section 7(a)(2), section 7(a) of the ESA also imposes an obligation on all federal agencies, in consultation with the FWS, to "carry[] out programs for the conservation" of listed species. 16 U.S.C. § 1536(a)(1). This provision imposes an "affirmative duty on each federal agency to conserve each of the species listed." *Sierra Club v. Glickman*, 156 F.3d 606, 616 (5th Cir. 1998); *accord Pyramid Lake Paiute Tribe of Indians v. Dep't of the Navy*, 898 F.2d 1410, 1416–17 (9th Cir. 1990) (noting that federal agencies have "affirmative obligations to conserve under [S]ection 7(a)(1)"). "Conserve" is defined by the Act to mean *recovery*, *i.e.*, the "use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary." 16 U.S.C. § 1536(a)(1).

APHIS has also violated this obligation by carrying out a program that has had the *opposite* effect of conserving the flycatcher, *i.e.*, the beetle release is impairing the species' critical habitat and otherwise subverting the flycatcher's prospects for recovery. Especially under these unusual circumstances, section 7(a)(1) mandates that APHIS rectify the situation by adopting, in coordination with the FWS and other agencies, an effective and comprehensive "program" for ensuring the restoration of natural flycatcher habitat in areas that have been, are being, and likely will be harmed by the beetle's impacts.

D. APHIS Is Violating NEPA And Its Own Regulations By Failing To Implement Mitigation Measures For The Effects Of Its Actions On The Flycatcher.

As explained previously, APHIS's own EA unequivocally committed the agency to implementing a "mitigation plan" in the "unlikely event that released [beetles] present a real or potential hazard to . . . nontarget animals species." 2005 EA at 27. Having made that commitment in a formal NEPA document – and relied on it as a basis for avoiding preparation of an EIS – APHIS is legally obligated to fulfill it. Agencies may rely on mitigation measures discussed in an EA as bases for avoiding preparation of an EIS but only "so long as significant measures are undertaken to mitigate the project's effects." *Friends of Endangered Species, Inc. v. Jantzen*, 760 F.2d 976, 987 (9th Cir. 1985). In addition, CEQ regulations state that "[m]itigation and other conditions established in [a NEPA document] or during its review and committed as part of the decision *shall* be implemented by the lead agency or other appropriate consenting agency." 40 C.F.R. § 1505.3 (emphasis added). The CEQ has also stated that an EA and FONSI can be used to impose enforceable mitigation measures that are "adopted as part of

the agency's final decision in the same manner mitigation measures are adopted in the formal Record of Decision that is required in EIS cases." *See* Forty Most Asked Questions Concerning CEQ's NEPA Regulations, 46 Fed. Reg. 18,026, 18,037–38 (Mar. 23, 1981). Accordingly, courts have held that "[c]onsistent with the goals of NEPA, an EA and FONSI may create enforceable conditions that an agency must take to mitigate adverse environmental effects." *See e.g., Lichterman v. Pickwick Pines Marina, Inc.*, 308 F. App'x 828, 830 (5th Cir. 2009); *see also Tyler v. Cisneros*, 136 F.3d 603, 608–09 (9th Cir. 1998) (noting that "NEPA regulations state that, if an agency does decide to enter into a mitigation measure, that measure 'shall be implemented'" (quoting 40 C.F.R. § 1505.3)).

Moreover, as noted earlier, APHIS's own binding regulations governing its NEPA procedures explicitly require the agency to implement mitigation measures it commits itself to in an EA. 7 C.F.R. § 372.9(f) ("APHIS will implement mitigation and other conditions established in environmental documentation and committed to as part of the decisionmaking process."). This regulation requiring APHIS to implement mitigation measures committed to as part of an EA or EIS is similar to other agency NEPA regulations. *See e.g.*, Final Guidance for Federal Departments and Agencies on the Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact, 76 Fed. Reg. 3843, 3852 (Jan. 21, 2011) (noting that under Army Corps NEPA regulations, "the adoption of mitigation [in an EA] that reduces environmental impacts below the NEPA significance threshold is similarly binding upon the agency" (citing 32 C.F.R. § 651.15).

Plainly, therefore, since the purportedly "unlikely event" triggering the need for a mitigation plan has in fact come to pass, and an endangered species is suffering severely as a result, APHIS is plainly obligated by NEPA, its own implementing regulations, and the CEQ implementing regulations, as well as multiple provisions in the ESA, to develop and implement an effective mitigation plan. In doing so, APHIS should provide for appropriate public involvement in a NEPA process accompanying such a plan.

E. In Light Of The Ongoing Destruction Of Flycatcher Habitat Caused By The Beetle Release, The Bureau of Reclamation Must Also Reinitiate Consultation Concerning The Impact Of Its Actions On The Flycatcher And Its Critical Habitat.

The ongoing spread of beetles also has important legal and practical implications for FWS-approved activities affecting the flycatcher that are conducted by the Bureau of Reclamation ("BR") and other activities. As summarized in a FWS memorandum stressing that the beetle release program "poses a serious risk to the recovery of the flycatcher," BR itself "is particularly concerned with the movement of beetles into the boundaries of the Lower Colorado River Multi-species Habitat Conservation Plan area and how it might negatively impact the plan's success . . . [T]he adverse effects to flycatchers and other migratory and nesting riparian-obligate wildlife could extend through the length of the Colorado River into Mexico as well as into central and eastern Arizona, southern California (CA) and [New Mexico]." Attachment J

(11/10/08 Memorandum concerning "Salt Cedar . . . Biocontrol Program in Regions 2, 6, and 8, and Southwestern Willow Flycatchers").

Consequently, because the ongoing spread of beetles is undermining critical assumptions built into the Multi-species HCP concerning the baseline status of the flycatcher and the ability of the HCP's mitigation and other measures to stave off extinction of the species and facilitate its recovery, there is "new information" concerning the "effects of the action[s]" covered by the HCP that necessitates reinitiation of consultation. 50 C.F.R. § 402.16(b). Simply put, mitigation measures that might have been adequate to offset adverse impacts in the absence of this new, dire threat to the species are plainly insufficient going forward, and hence this is a classic case in which BR and FWS must reevaluate the panoply of measures on which the agencies have agreed to satisfy BR's section 7 responsibilities.[8]

CONCLUSION

Please contact us if you wish to discuss this matter or have any questions concerning this letter. Given the circumstances, we hope that the agencies involved will be willing to seriously discuss a comprehensive, non-adversarial approach to resolving this unfortunate situation. However, if we do not hear from you, we will assume that no changes will be made and will consider all available avenues, including litigation, to rectify the legal violations set forth above.

Sincerely,

Eric R. Glitzenstein
Tyler Sniff

[8] By the same token, the FWS must reinitiate internal section 7 consultation concerning the Salt River Project's Roosevelt Habitat Conservation Plan, since FWS biologists have also concluded that the beetle release "could significantly impact" the efficacy of the "conservation measures" adopted pursuant to that HCP. *Id.*

November 10 2005 City Council Minutes

ST. GEORGE CITY COUNCIL MEETING

SPECIAL MEETING

NOVEMBER 10, 2005, 4:00 P.M.

ADMINISTRATION CONFERENCE ROOM

PRESENT:

Mayor Daniel McArthur

Council Member Suzanne Allen

Council Member Rod Orton

Council Member Gail Bunker

Council Member Bob Whatcott

City Manager Gary Esplin

City Attorney Shawn Guzman

City Recorder Gay Cragun

EXCUSED:

Council Member Larry Gardner

OPENING:

Mayor McArthur called the meeting to order and welcomed all present. The pledge of allegiance was led by Council Member Orton and the invocation was offered by Mayor McArthur.

RESOLUTION:

Consider approval of a resolution authorizing a rebate program for ultra low flow toilet replacement.

Attachment A

Conservation Coordinator Rene Fleming requested matching funding to apply for a grant from the Bureau of Reclamation for a low flow toilet program and to increase the "Slow the Flow" landscape audit program by expanding it to homeowners associations and larger commercial irrigators. The City is applying for a grant in the amount of $25,000, and the Washington County Water Conservancy District will contribute $25,000 to the program. This funding will cover 460 toilets at $100 a toilet. The program is for replacement of older toilets only, and not new construction.

MOTION: A motion was made by Council Member Allen to approve the resolution.

SECOND: The motion was seconded by Council Member Orton.

VOTE: Mayor McArthur called for a roll call vote, as follows:

Council Member Allen - aye

Council Member Orton - aye

Council Member Bunker - aye

Council Member Whatcott - aye

The vote was unanimous and the motion carried.

DISCUSSION ON SIGN ORDINANCE:

Community Development Director Bob Nicholson distributed a handout (attached hereto) and introduced members of the Sign Review Board who were present. He reviewed the proposed changes to the Sign Ordinance. After discussion, it was agreed that the bottom of a monument sign could be 75% of the width of the sign, instead of 50% as recommended. The ordinance will be scheduled for the December 1 agenda.

Ray Draper requested permission to install a sign for KONY Coins for Kids on the Smith's corner for 30 days. The sign will not be illuminated.

MOTION: A motion was made by Council Member Bunker to approve placement of the sign as requested.

SECOND: The motion was seconded by Council Member Allen.

VOTE: Mayor McArthur called for a vote, and all voted aye. The motion carried.

PRESENTATION ON TAMARISK REMOVAL PROGRAM:

The meeting adjourned to the City Council Chambers.

A power point presentation was made by Greg Abbott of the USDA on the Diorhabda Elongata, otherwise known as the salt cedar beetle, and the benefits of using the beetle to control tamarisk. It was the consensus of the City Council to approve a trial use of the salt cedar beetle on City-owned property.

St. George City Council Minutes

November 10, 2005

Page Two

ADJOURN:

MOTION: A motion to adjourn was made by Council Member Bunker.

SECOND: The motion was seconded by Council Member Whatcott.

VOTE: Mayor McArthur called for a vote, and all voted aye. The motion carried.

_____

Gay Cragun, City Recorde

Gregory C Abbott

08/10/2004 01:20 PM

To: marlonw@ext.usu.edu
cc: gcweed@frontiernet.net
Subject: Federal Involvement in UT Saltcedar BC

Hi, Marlon,

Here is a little memo to briefly explain federal involvement with saltcedar biocontrol here in Utah.

The National Environmental Policy Act states that anytime that there is a "significant" federal action wherein there is potential for an environmental impact to any ecosystem, an environmental assessment (e.a.) must be written, evaluating that potential impact. The Endangered Species Act additionally requires APHIS to consult with the U.S. Fish and Wildlife Service (FWS) whenever there is the potential to affect any threatened or endangered species. APHIS's environmental assessment was completed months ago, but since the endangered southwestern willow flycatcher nests in saltcedar in Arizona, the FWS must give us their concerns about the e.a. Not all the FWS regions have done so to date; therefore, we cannot yet procede with any of our federal actions, like issuing release permits for saltcedar leaf beetle at any new sites. Neither can APHIS allow any beetles to be transported across state lines, since she is the agency that regulates such interstate movement of international organisms.

With that having been said, there are no legal restrictions that preclude STATE or PRIVATE entities from moving "already permitted" saltcedar leaf beetles within the same state and releasing them on NON-federal lands. Such does not constitute a significant federal action, since no federal personnel, equipment, lands nor monies would be involved in the transport/release.

If you have any questions, please feel free to give me a holler at 435-896-4772 (office) or 435-896-3842 (cell).
Thanks,
Greg

Lower Virgin River Fuels and Fire Council Meeting

7/10/06, 1:00 p.m.
Old Washington County Courthouse
197 East Tabernacle Street
St. George, Utah

Attendees: Randy Halverson, Rick Rosenberg, Roger Bundy, Corey Cram, Ron Wilson, Wade Wardrop, Bob Douglas - BLM Biologist (T&E Species), Chuck Tandy – Washington City Fire Chief, Steve Meismer

----- Agenda Topics -----

1. Section 7 Consultation Summary	Corey Cram
2. Beetle Sites	Randy Halverson
3. Open Discussion	

Other Information

Lower Virgin River Fuels and Fire Council Meeting

7/10/06
Old Washington County Courthouse
197 East Tabernacle Street
St. George, Utah

Attendees:

---------- Agenda Topics ----------		
Section 7 Consultation Summary — Corey Cram		
Discussion: **Corey has compiled the information provided by the committee – including a background and river Geomorphology section. He will email it to the group for comment soon.**		
Conclusions:		
Action items:	Person responsible:	Deadline:
Complete document for USFWS review.	**Corey**	**8/14/06**
Beetle Sites — Randy Halverson		
Discussion: **Randy distributed a map with the designated Southwest Willow Flycatcher Habitat. Randy is waiting for a call from Greg Abbott for the beetle collection dates. They are hoping to collect 30-40,000 beetles. Corey and Ron would like to attend the beetle collection. St. George City has two cages set up at 270 E. Riverside Drive near the pump station. Free release points: River Road Bridge and the Dixie Center and the Waste Water Treatment Plant (on city property). The city will GPS locate the release sites.**		
Action items:	Person responsible:	Deadline:
Randy is looking for a college student to monitor the beetles. Corey will follow up. The release will be within the next two weeks.	**Randy**	**8/14/06**

Open Discussion

Discussion: **Randy asked Bob Douglas and Chuck Tandy to introduce themselves to the group. They agreed to join the council.**

Conclusions:

Action items:	Person responsible:	Deadline:

Other Information

4. Roger Bundy asked about the Brush Hog purchase. Randy has a blanket purchase order for the equipment ready. Ron Wilson needs a request from the city for the work project. (50/50 local match) must be a high risk fuel area (red areas on the master plan maps.) $175/hour is the market rate. The Brush Hog can clear six acres in three days. Randy's crew averages 1 acre per day.

5. Ron asked about the NRCS "Safe Haven" project with Dr. Johnson site. Corey is working on it with Steve.

6. Corey reported on the willow farm/nursery status.

7. The next meeting will be Monday, August 14, 2006 at 1:00 p.m.

Lower Virgin River Fire Council Meeting

6/19/06 1:00 p.m.
Old Washington County Courthouse
197 East Tabernacle Street
St. George, Utah

Attendees:

----- Agenda Topics -----

1.	Section 7 Consultation	Tom Chart
2.	Funding, Department of Natural Resources	John Schmidt
3.	Beetles	Randy Halverson

Other Information

Lower Virgin River Fire Council Meeting

6/19/06
Old Washington County Courthouse
197 East Tabernacle Street
St. George, Utah

Attendees:

---------- Agenda Topics ----------		
Section 7 Consultation	**Tom Chart**	
Discussion: We hope that the Section 7 Consultation will be completed this fall.		
Conclusions: Tom will have Kate (FWS) prepare a GIS map of the sensitive areas for the next meeting.		
Action items:	Person responsible: Tom	Deadline: 7/10/06
Funding, Department of Natural Resources	**John Schmidt**	
Discussion: $50k committed to the project now – National Fire Funds. Randy is preparing a blanket contract for a "Bullhog" to clear vegetation for St. George City. The city staff will be applying herbicides. Summer is the best time to apply Pathfinder chemicals		
Conclusions: Roger is requesting a map of the areas.		
Action items:	Person responsible:	Deadline:

Beetles	Randy Halverson	
Discussion: **The beetles got a late start due to a colder than normal spring. We will not gather beetles until mid-July. They will provide two cages to monitor the survivability of the beetles in this climate. Release 200-300 in each cage and also do a free release and GPS map the progress over time.**		
Conclusions: **Work with Greg Abbott to get a copy of the work plan. It's typically a three-year process to kill the plants.**		
Action items:	Person responsible:	Deadline:

Other Information

- Corey – June 28th is the Virgin River Watershed Meeting to present the plan. The meeting is at 3:00 p.m. at WCWCD. See the website for copies.
- Corey – The US Army Corps of Engineers has money to do mapping, planning and studies for watershed projects and floodplain management. The meeting will be scheduled for August in Mesquite for a multi-state project.
- Corey – Tom – Reviewed the FWS "safe harbor" agreement to establish a baseline for endangered species habitat (Southwest Willow Flycatcher) to allow for improvement projects to create new habitat. Sheldon Johnson's farm is a possible project.
- Steve Swann asked about revegetation efforts.
- The next meeting is scheduled for July 10, 2006 at 1:00 p.m.

Attachment E

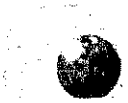
John Fay/ARL/R9/FWS/DOI
06/09/2005 03:30 PM

To Gordon Brown
cc
bcc
Subject Fw: Conference Call reschedule

This is the thread I mentioned in my voice-mail message. I'm not sure what is going on in Utah, but it doesn't seem to be good.

--jf

----- Forwarded by John Fay/ARL/R9/FWS/DOI on 06/09/2005 03:27 PM -----



Bridget Fahey
04/12/2005 10:15 AM

To: John Fay/ARL/R9/FWS/DOI@FWS
cc:
Subject: Fw: Conference Call reschedule

Hey John. See the issue below. I wonder if we could encourage APHIS to take a role in managing the beetle release that occurred illegally in Utah to reduce effects to listed species? Also, I think we should ask them for a justification of why Utah is not included in the "second-tier" states--states where no releases are planned but that the beetles could spread to.

----- Forwarded by Bridget Fahey/R6/FWS/DOI on 04/12/2005 08:10 AM -----

Lucy Jordan/R6/FWS/DOI
04/11/2005 03:50 PM

To Bridget Fahey/R6/FWS/DOI@FWS, Henry Maddux/R6/FWS/DOI@FWS
cc Al Trout/R6/FWS/DOI@FWS, Bridget Olson/R6/FWS/DOI@FWS, Connie Young-Dubovsky/R6/FWS/DOI@FWS, Dan Alonso/R6/FWS/DOI@FWS, Jeff King/R6/FWS/DOI@FWS, Steve Hicks/R6/FWS/DOI@FWS
Subject Re: Conference Call reschedule

APHIS played an underhanded role in the introduction of the beetle in Utah, and USDA is very concerned (and angry). The Utah APHIS guy in charge of the Delta, Utah release site sent an email out reiterating the Fed regs and letting everyone know that there are plenty of bugs at the Delta site and that the regs did not apply to a private or state entity collecting and releasing onto a private or state property - essentially an open invitation to circumvent Federal regulations. Our state and local weed managers were all too ready to jump on this opportunity. Clearly, this invitation was not included in our section 7 consultation and agreement with APHIS for the experimental releases.

Further, for our Refuges and other Fed entities to acquire the correct beetles from a USDA insectary and release them, they will need to complete section 7 consultation.

I believe that APHIS does not want to include Utah in the consultation because they don't want attention brought to their circumvention of Federal regulations, which in any other agency might be cause for dismissal.

USDA is interested in doing "damage control" in Utah, trying to find out where the bugs were released so they can initiate some monitoring of their effects, spread, survival, etc. They are VERY upset at what Utah APHIS has done. They and the Tamarisk Coalition are in agreement with the FWS that releases need to be managed, recorded, and monitored carefully. The actions of Utah APHIS, with concurrance and support of the state and local agencies, have been the fear all along and reinforce the need for completing Section 7 and NEPA. These types of actions compromise both the good science and the good working relationship that is essential to effective development and use of biological control agents to achieve ecological goals.

Lucy

Dr. Lucy A. Jordan
Fish & Wildlife Biologist
U.S. Fish & Wildlife Service
Utah Ecological Services Office
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West Valley City, Utah 84119
Phone: (801) 975-3330
Fax: (801) 975-3331
email: lucy_jordan@fws.gov

Experience is that marvelous thing that enables you to recognize a mistake when you make it again.
Bridget Fahey

Bridget Fahey
04/11/2005 01:33 PM

To: Lucy Jordan/R6/FWS/DOI@FWS
cc: Al Trout/R6/FWS/DOI@FWS, Bridget Olson/R6/FWS/DOI@FWS, Connie Young-Dubovsky/R6/FWS/DOI@FWS, Dan Alonso/R6/FWS/DOI@FWS, Jeff King/R6/FWS/DOI@FWS, Steve Hicks/R6/FWS/DOI@FWS
Subject: Re: Conference Call reschedule

Hi Lucy. Thanks for the information. I'm trying to figure out if there is a tie-in between APHIS's proposed action and effects from the leaf beetle in Utah. Typically, the action agency determines the scope of section 7 consultation with their proposed action. In this case, they did not choose to include Utah in their request. I think that we can address your concerns under section 7 if one of the two following conditions exist:

1. APHIS either 1) had a role in the introduction of the beetles into Utah; or 2) has some sort of continuing regulatory role with the State. Their request for consultation says that they did not have a role in the introductions; State of Utah personnel have already distributed the beetle throughout Utah. If there was no APHIS involvement, there is no federal section 7 nexus. However, if they have the ability to regulate the beetle, we can request that they consult with them on future management to get it in compliance with ESA. If there is no federal nexus but we have listed species concerns, we should take it up with the State. If the beetles altered swwf breeding habitat (for example), then the State may have violated section 9 by causing harm.
2. Is there a chance that beetles introduced into CO or WY could spread into Utah and could affect listed species? For some reason, APHIS is treating Utah differently that other states (CA, IO, MS, NE, NV, ND and WA) where the do not propose releases but are consulting in the event that beetles spread to those states. We could ask them for clarification of why they are treating UT differently. I haven't read the supporting info enough to know how far the beetles are likely to spread; I know they proposed to stay 100 mi away from swwf breeding habitat in Colorado, I'm not sure if the beetles are likely to be able to spread that far.

My call with section 7 staff in DC and the other involved regions was postponed. I will bring up this issue on the call when it happens, either at the end of this week or next. It would be good to have the above info

as well as the outcome of your call.

><{{{('> ><{{{('> ><{{{('> ><{{{('> ><{{{('>
Bridget Fahey
Section 7/HCP Coordinator
Mountain-Prairie Region
U.S. Fish and Wildlife Service
(303) 236-4258
(303) 236-0027 (fax)
><{{{('> ><{{{('> ><{{{('> ><{{{('> ><{{{('>

Lucy Jordan/R6/FWS/DOI

Lucy Jordan/R6/FWS/DOI
04/11/2005 12:23 PM

To Connie Young-Dubovsky/R6/FWS/DOI@FWS
cc Al Trout/R6/FWS/DOI@FWS, Bridget Olson/R6/FWS/DOI@FWS, Dan Alonso/R6/FWS/DOI@FWS, Jeff King/R6/FWS/DOI@FWS, Steve Hicks/R6/FWS/DOI@FWS, Bridget Fahey/R6/FWS/DOI@FWS
Subject Re: Conference Call reschedule

Tuesday works for me, but we really need to get on it. The email from Bridgeta Fahey says that APHIS is excluding Utah from the consultation. I'm assuming that is because they have already found a way to get people to release it here, which is causing HUGE problems in MANY WAYS. We MUST insist that APHIS include Utah in this consultation!!!!!

Lucy

Dr. Lucy A. Jordan
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Phone: (801) 975-3330
Fax: (801) 975-3331
email: lucy_jordan@fws.gov

Experience is that marvelous thing that enables you to recognize a mistake when you make it again.
Connie Young-Dubovsky

Connie Young-Dubovsky
04/11/2005 11:27 AM

To: Lucy Jordan/R6/FWS/DOI@FWS
cc: Al Trout/R6/FWS/DOI@FWS, Bridget Olson/R6/FWS/DOI@FWS, Dan Alonso/R6/FWS/DOI@FWS, Jeff King/R6/FWS/DOI@FWS, Steve Hicks/R6/FWS/DOI@FWS
Subject: Conference Call reschedule

Folks, I have had an emergency conference call come up at 1 PM and it will probably last awhile Prairie dogs and ferrets). Since Dan can't be on today how about 1:30 tomorrow (Tuesday the 12th)? I can do it in the morning also but would have to rearrange a personal appointment.

Let me know!

Thanks!

Connie Young-Dubovsky
NEPA Coordinator, Region 6
USFWS
PO Box 25486, DFC
Denver, CO 80225-0486
Ph # 303-236-4265
Fax # 303-236-0027
connie_youngd@fws.gov

"When we try to pick out anything by itself, we find it hitched to everything in the universe."
- John Muir -

Lucy Jordan/R6/FWS/DOI

Lucy Jordan/R6/FWS/DOI
04/11/2005 10:22 AM

To: Connie Young-Dubovsky/R6/FWS/DOI@FWS
cc: Al Trout/R6/FWS/DOI@FWS, Bridget Olson/R6/FWS/DOI@FWS, Dan Alonso/R6/FWS/DOI@FWS, Jeff King/R6/FWS/DOI@FWS, Steve Hicks/R6/FWS/DOI@FWS
Subject: Re: Tamara has Bugs

I am available at 1:30 Monday (today). Lucy

Dr. Lucy A. Jordan
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U.S. Fish & Wildlife Service
Utah Ecological Services Office
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West Valley City, Utah 84119
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Fax: (801) 975-3331
email: lucy_jordan@fws.gov

Experience is that marvelous thing that enables you to recognize a mistake when you make it again.
Connie Young-Dubovsky

Connie Young-Dubovsky
04/07/2005 08:52 AM

To: Jeff King/R6/FWS/DOI@FWS
cc: Al Trout/R6/FWS/DOI@FWS, Bridget Olson/R6/FWS/DOI@FWS, Dan Alonso/R6/FWS/DOI@FWS, Lucy Jordan/R6/FWS/DOI@FWS, Steve Hicks/R6/FWS/DOI@FWS
Subject: Re: Tamara has Bugs

Jeff, It appears that we need to have this conference call sooner rather than later. I would like to have

Lucy Jordan on it and she is on the road today and tomorrow. However, I do have her cell phone number so I can try and track her down. I'm available Monday anytime. How does 1:30 PM sound to everyone just so we have the morning to get our ducks in a row after the weekend?

Thanks!

Connie Young-Dubovsky
NEPA Coordinator, Region 6
USFWS
PO Box 25486, DFC
Denver, CO 80225-0486
Ph # 303-236-4265
Fax # 303-236-0027
connie_youngd@fws.gov

"When we try to pick out anything by itself, we find it hitched to everything in the universe."
- John Muir -

Jeff King/R6/FWS/DOI

Jeff King/R6/FWS/DOI
04/06/2005 04:51 PM

To: Dan Alonso/R6/FWS/DOI@FWS
cc: Al Trout/R6/FWS/DOI@FWS, Bridget Olson/R6/FWS/DOI@FWS, Connie Young-Dubovsky/R6/FWS/DOI@FWS, Lucy Jordan/R6/FWS/DOI@FWS, Steve Hicks/R6/FWS/DOI@FWS
Subject: Re: Tamara has Bugs

Folks,

It seems logical that we would want to release beetles that are going to survive in the environment in which they are released!! If that is the Fukang strain, then that's the way we should proceed.

Connie, can you take the lead on the conference call and make sure all needed participants are available??

Thanks,

Jeff

Dan Alonso

Dan Alonso
04/06/2005 11:08 AM

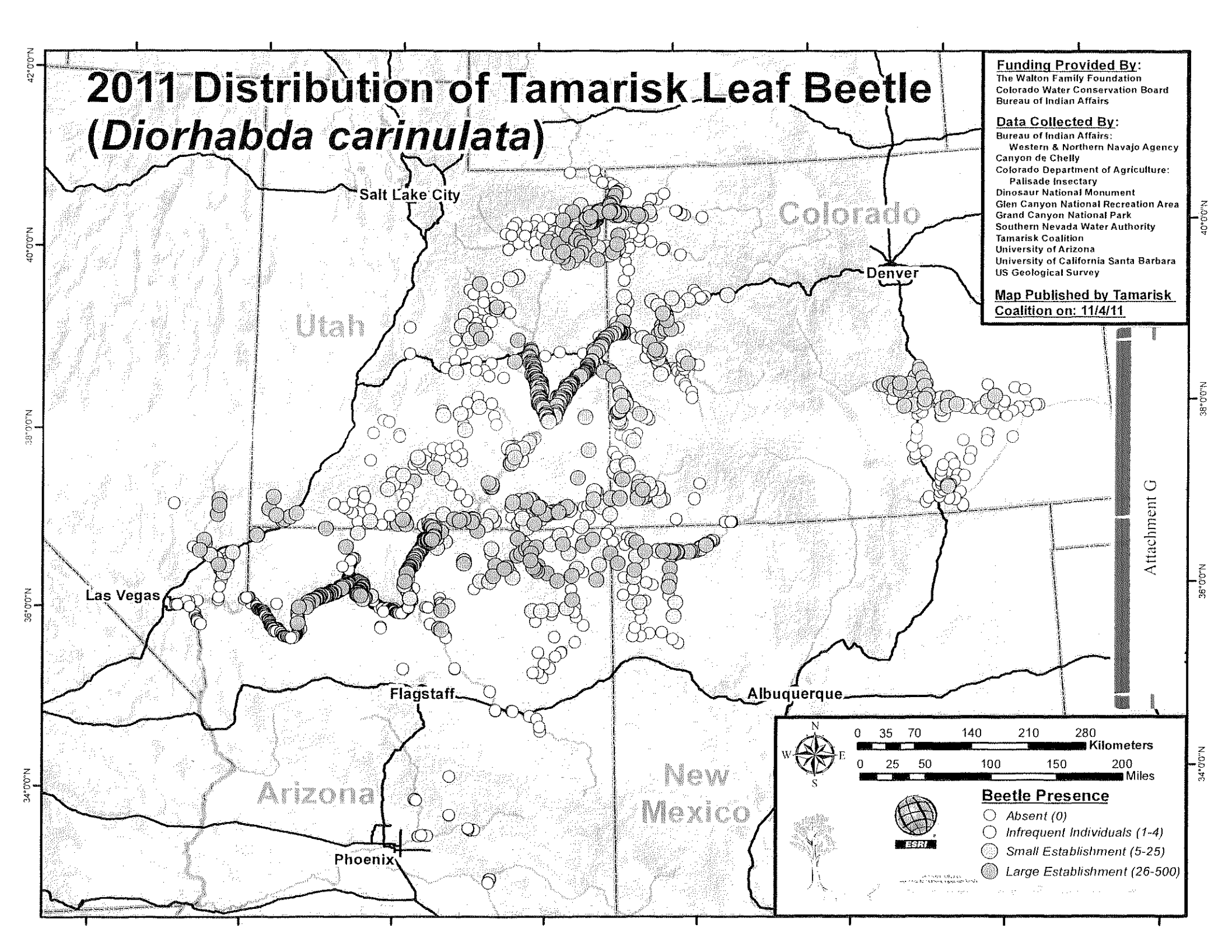
To: Connie Young-Dubovsky/R6/FWS/DOI@FWS, Jeff King/R6/FWS/DOI@FWS, Lucy Jordan/R6/FWS/DOI@FWS, Al Trout/R6/FWS/DOI@FWS, Steve Hicks/R6/FWS/DOI@FWS, Bridget Olson/R6/FWS/DOI@FWS
cc:
Subject: Tamara has Bugs

I spoke with Tamra Naumann (Botanist, Dinosaur National Monument) this morning and she had quite a bit of information as to what Colorado is doing to get beetles. I can share what she told me at our conference call. Who's organizing the conference call?

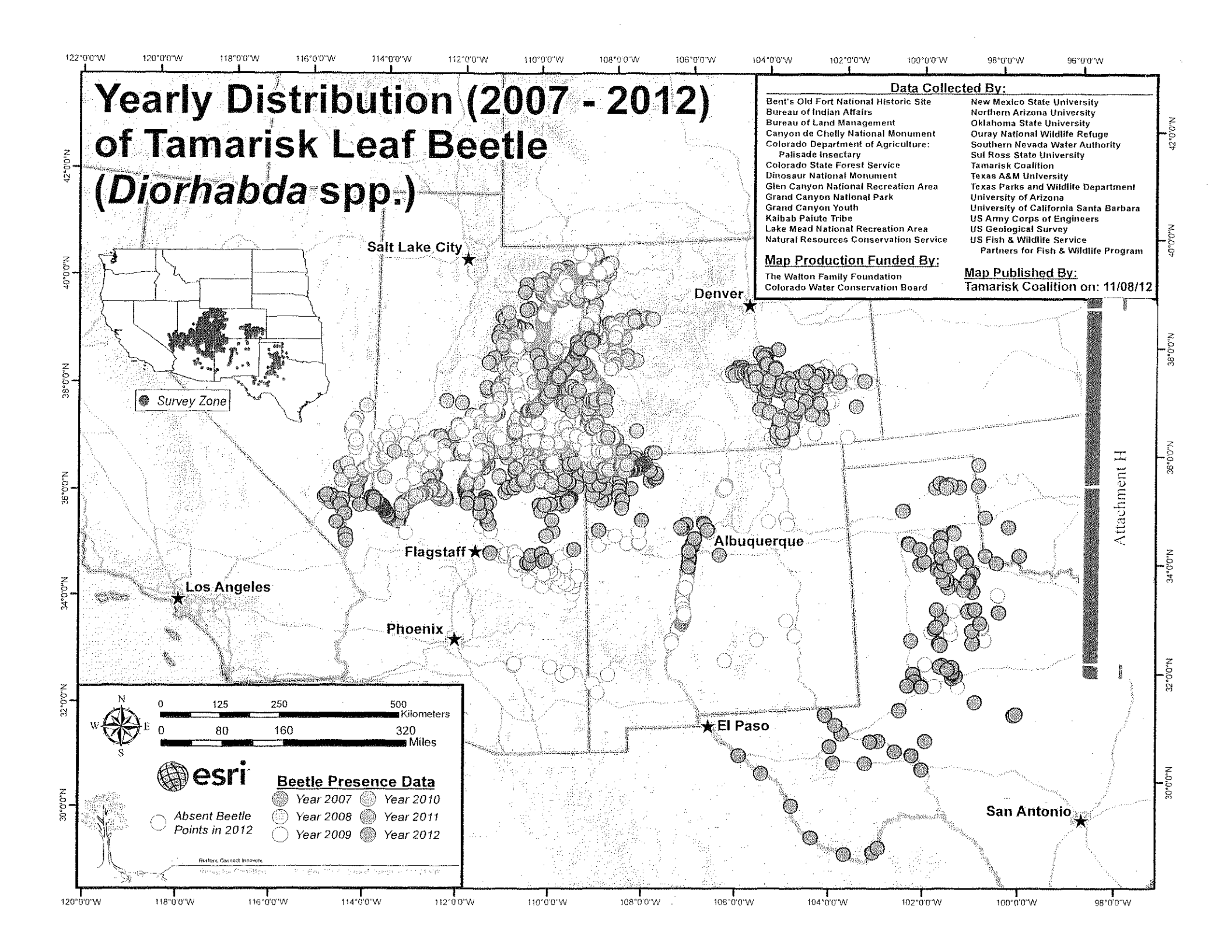
In a nut shell, Tamara has beetles in cold storage in California that were collected from Lovell, WY (same place CMR beetles came from). They are the Fukang, China strain (subspecies???) which she hopes to release at the Monument once the NEPA compliance, and insect release and monitoring plans are complete. The Utah and Colorado APHIS, State Weed Directors, and County Weed Supervisors are at odds with one another over Utah's indiscriminate way of releasing beetles. Much of what was done in releasing the beetles in Utah was illegal and done without planning or coordination with adjacent states. Most of the argument centers around the strain of beetle which was released in Utah being from Kazakhstan and Colorado wanting to release the Fukang strain which is thought to be more cold tolerate and have a diapause better suited for the western U.S.. Then come compatibility issues with hybridization, sterility etc...

The nut shell is full, I'll save the rest for the conference call.

Dan Alonso
Project Leader
Ouray NWR
HC 69 Box 232
Randlett, UT 84063
(435)545-2522 ext. 222


2011 Distribution of Tamarisk Leaf Beetle
(Diorhabda carinulata)
Funding Provided By:
The Walton Family Foundation
Colorado Water Conservation Board
Bureau of Indian Affairs
Data Collected By:
Bureau of Indian Affairs:
Western & Northern Navajo Agency
Canyon de Chelly
Colorado Department of Agriculture:
Palisade Insectary
Dinosaur National Monument
Glen Canyon National Recreation Area
Grand Canyon National Park
Southern Nevada Water Authority
Tamarisk Coalition
University of Arizona
University of California Santa Barbara
US Geological Survey
Map Published by Tamarisk Coalition on: 11/4/11
Salt Lake City
Colorado
Denver
Utah
Las Vegas
Flagstaff
Albuquerque
Arizona
New Mexico
Phoenix
Attachment G
0 35 70 140 210 280 Kilometers
0 25 50 100 150 200 Miles
Beetle Presence
Absent (0)
Infrequent Individuals (1-4)
Small Establishment (5-25)
Large Establishment (26-500)
42°0'0"N
40°0'0"N
38°0'0"N
36°0'0"N
34°0'0"N

Yearly Distribution (2007 - 2012) of Tamarisk Leaf Beetle (*Diorhabda* spp.)



Data Collected By:

- Bent's Old Fort National Historic Site
- Bureau of Indian Affairs
- Bureau of Land Management
- Canyon de Chelly National Monument
- Colorado Department of Agriculture: Palisade Insectary
- Colorado State Forest Service
- Dinosaur National Monument
- Glen Canyon National Recreation Area
- Grand Canyon National Park
- Grand Canyon Youth
- Kaibab Paiute Tribe
- Lake Mead National Recreation Area
- Natural Resources Conservation Service
- New Mexico State University
- Northern Arizona University
- Oklahoma State University
- Ouray National Wildlife Refuge
- Southern Nevada Water Authority
- Sul Ross State University
- Tamarisk Coalition
- Texas A&M University
- Texas Parks and Wildlife Department
- University of Arizona
- University of California Santa Barbara
- US Army Corps of Engineers
- US Geological Survey
- US Fish & Wildlife Service Partners for Fish & Wildlife Program

Map Production Funded By:

The Walton Family Foundation
Colorado Water Conservation Board

Map Published By:
Tamarisk Coalition on: 11/08/12

Collaboratively Monitoring the Expansion of the Tamarisk Leaf Beetle (*Diorhabda* spp.) 2007-2012

The yearly tamarisk leaf beetle distribution map is a result of monitoring partners from seven states and a multitude of funding sources. Tamarisk Coalition would like to recognize all of the individuals, agencies, organizations and foundations that make this monitoring possible.

If you are interested in becoming a monitoring partner or in funding these efforts, please contact Season Martin (smartin@tamariskcoalition.org).

Funding Sources (2007-2012)

Bureau of Indian Affairs
Bureau of Land Management
The Canadian River Municipal Water Authority
Colorado Department of Agriculture
Colorado River Municipal Water District, Texas
Colorado Water Conservation Board
Dinosaur National Monument
Grand Canyon Association
Grand Canyon National Park
Kenny Brothers Foundation
National Park Centennial Challenge
National Park Service
Oklahoma Cooperative Extension Service
Ouray National Wildlife Refuge
Sustainable Agriculture and Research and Education Program
Texas Parks and Wildlife Department
Texas State Soil and Water Conservation Board
US Fish and Wildlife Service
US Geological Survey
Telluride Foundation
The Walton Family Foundation
Williams

Partner Acknowledgements

Bent's Old Fort National Historic Site: Fran Pannebaker, Adam Heberlie
Bureau of Indian Affairs: Renee Benally, Roxanne Harrison, Patricia Wright
Bureau of Land Management: Sarah Scott, Jacob Young, Royal Gorge Field Office, Interdisciplinary Team
Canyon de Chelly National Monument: Mick Castillo
The Canadian River Municipal Water Authority: Kent Satterwhite & Rod Goodwin
Colorado Department of Agriculture, Palisade Insectary: Dan Bean, Sonya Ortega, Nina Louden
Colorado State Forest Service
Dinosaur National Monument: Peter Williams
Glen Canyon National Recreation Area: Lonnie Pilkington, John Spence, Minh Le, Oscar Gonzalez, Jordan Pina, Bill Raitter, Mclean Worsham & Frankie Coburn
Grand Canyon National Park: Lori Makarick
Grand Canyon Youth: Emma Wharton
Kaibab Paiute Tribe: Sarah Burger
Lake Mead National Recreation Area: Curt Deuser
Natural Resources Conservation Service: Patty Knupp
New Mexico State University: Dave Thompson
Northern Arizona University: Matt Johnson
Oklahoma State University: Tom Royer & Alissa Berro
Ouray National Wildlife Refuge: Diane Penttila
Southern Nevada Water Authority: Jason Eckberg
Sul Ross State University: Chris Ritzi
Texas A&M University: Allen Knutson, Jerry Michels, James Tracy, Erin Jones, Mark Muegge
Texas Parks and Wildlife Department: Chip Ruthven & Matthew Poole
University of Arizona: Levi Jamison
University of California Santa Barbara: Tom Dudley
US Army Corps of Engineers, Albuquerque District
US Bureau of Reclamation: Debra Eberts (retired)
US Fish & Wildlife Service Partners for Fish and Wildlife Program: Katy Fitzerald

NOT WANTED IN ARIZONA

TAMARISK LEAF BEETLES

Tamarisk leaf beetles (*Diorhabda sp.*) are moving into Arizona from southern Utah via the Virgin River to Lake Mead and the mainstem Colorado River to Lake Powell. Environmental compliance for beetle releases in Colorado, Nevada, Utah, and other Western states did not allow for any releases into the State of Arizona or within 200 miles of occupied southwestern willow flycatcher nesting habitat containing tamarisk. Unfortunately, releases at Moab and St. George, Utah, of the Fukang or Chilik strains of the beetle have allowed the beetles to enter the State of Arizona along the Virgin River. Entry via the mainstem Colorado River is anticipated.

Background: The tamarisk leaf beetle was identified in the 1990's as a potential bio-control agent for invasive tamarisk (salt cedar). Through the 1990's, the Animal and Plant Health Inspection Service (APHIS) and the Agricultural Research Station (ARS), both agencies of the Department of Agriculture, worked with local partners and the U.S. Fish and Wildlife Service (USFWS) to provide opportunities to research the beetle and its effectiveness against tamarisk. In 1999, after both National Environmental Policy Act (NEPA) and Endangered Species Act (ESA) compliance was completed, the beetles were released into cages in several locations across the Rocky Mountains and Great Plains with the following restrictions:

1. Only the Fukang (China) and Chilik (Kazakhstan) strains would be released. These strains were believed to only persist in areas above 38° north latitude (approximately at the upper end of Lake Powell) due to day-length requirements and would not be successful below that latitude.
2. No releases were to be made within 200 miles of tamarisk areas that supported endangered southwestern willow flycatcher nesting.
3. The ESA consultation covered the placement of the beetles in field cages, and the later removal of the cages to free the insects to the surrounding areas. Coverage for active movement of the beetles from the experimental release areas was not included.

In 2004, the Delta, Utah, experimental release site was opened for collection of beetles for use by local agencies in Utah to introduce the beetles to non-Federal lands. Grand County, Utah, stocked beetles in at least two sites near Moab in 2004 and another three in 2005. Defoliation on a larger scale was observed in 2005. Since then, the beetles have moved down the Colorado River almost to the upper end of Lake Powell. In 2006, the City of St. George, Utah, released beetles along the Virgin River at 37° north latitude. By 2008, defoliation along the river and at a southwestern willow flycatcher breeding site was documented. The beetles have spread downstream on the Virgin River to at least Littlefield, Arizona, and are expected to reach Lake Mead in 2009 or 2010. Beetles from Moab down the Colorado River to Lake Powell have slowed their advance; however, entry into Arizona via Lake Powell/Colorado River is still likely to occur.

The Problem: Beetle strains not expected to persist below 38° north are thriving at release sites at 37° north (approximately the Arizona-Utah border) and are moving south toward 36° north (approximately the southern edge of Lake Mead). If they successfully continue southward along the lower Colorado River, they may reach the Colorado River Delta and the rivers of Central Arizona (Gila, Salt, San Pedro, and Verde) and affect southwestern willow flycatchers and other migratory birds nesting in riparian habitats containing tamarisk.

WHY DON'T WE WANT THE TAMARISK LEAF BEETLE IN ARIZONA?

- Tamarisk is a primary woody riparian tree species found along the Colorado and central Arizona rivers. The spread and proliferation of tamarisk in Arizona is primarily due to land management practices that create conditions where native riparian trees are unable to thrive or persist. These practices include dam operations that alter the natural hydrograph, water diversion, and channelization or levee construction that prevents overbank flooding. Although an exotic species, tamarisk provides migration and nesting habitat for the southwestern willow flycatcher and other migratory birds as well as habitat for other terrestrial wildlife. Therefore, should existing riparian habitat dominated by tamarisk be removed or degraded by the beetle, and given that replacement of the native riparian community under the existing limitations from land management decision would be virtually impossible to achieve, the loss of extant tamarisk habitat is a significant loss of habitat for wildlife.
- Tamarisk is not killed immediately by the beetles' defoliation, but the repeated cycle of defoliation does result in death of parts of the trees, changes in the re-growth patterns of foliage, and over time, reduces the vigor of the tree until it eventually dies. Where tamarisk provides suitable habitat for nesting birds, this cycle will degrade the available habitat over the long-term.
- Defoliation by the beetles occurs during the height of the migratory bird nesting season (May through July) and eliminates physical cover and affects habitat microclimates that reduces likelihood of nesting success. This significantly limits migratory bird reproduction, since they have only a narrow window available to nest and produce young.
- The increase in dead leaf litter and branches in the tamarisk habitats increases the risk of wildfire destroying the riparian community, including nearby areas of native riparian vegetation that may not be able to naturally regenerate.

WHAT CAN YOU DO TO STOP THE SPREAD OF TAMARISK LEAF BEETLES?

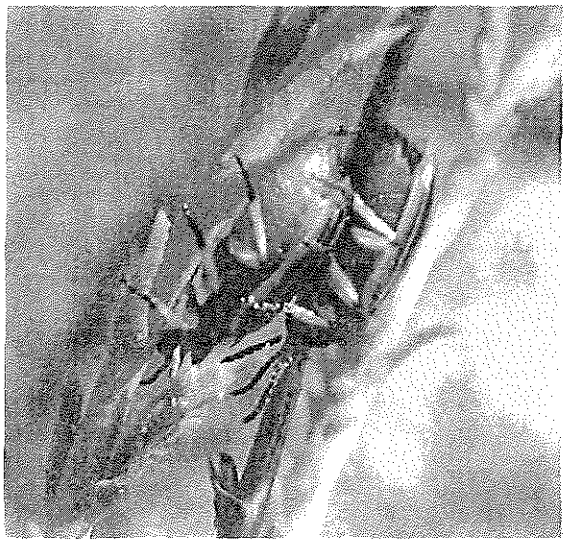
The U.S. Fish and Wildlife Service in Regions 2, 6, and 8 is working with APHIS and ARS to evaluate the ongoing programs and determine what monitoring and other measures should be taken to address the spread of the beetle outside of previously defined areas. We ask that you:

- Communicate with all your partners and cooperators in invasive weed control groups or river users and let them know not to bring beetles into Arizona or within 200 miles of southwestern willow flycatcher tamarisk habitats. There is no legal approval in place to bring beetles into Arizona.
- Beetles can spread by inadvertent human transport. The downstream movement from Moab may be related to beetles "hitching a ride" on recreational rafting parties that stop at tamarisk occupied areas for rest stops and inadvertently carry beetles downstream to the next stop. Researchers may also contribute to this transport as they move through beetle-infested areas. We are developing a hazard analysis and critical control point (HACCP) plan for use by researchers and other river users, but in the meantime:
    - If you are going into an area that may have beetles, examine all gear, clothing, or other equipment before returning from the field to avoid carrying beetles with you.
    - If you are in an area not known to have beetles, and you see insects that could be beetles, or tamarisk trees that look defoliated, check the area and capture specimens for verification by APHIS. Please ensure the specimens cannot escape while in transit.

For more information, or to report beetles, contact:

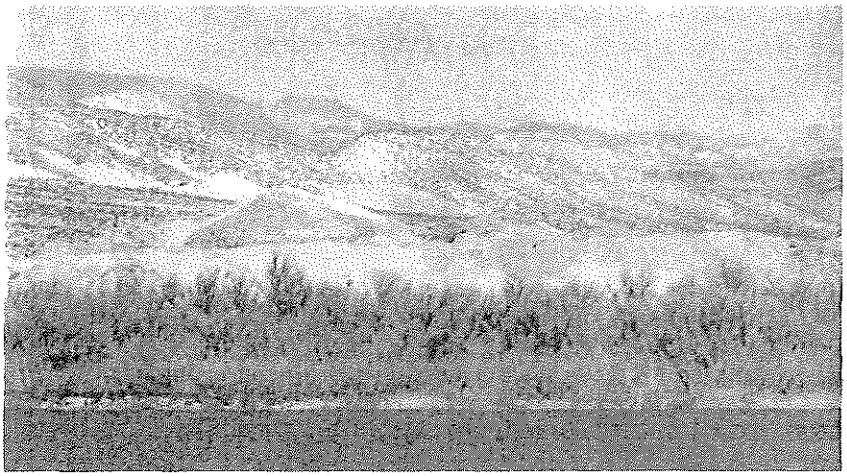
Christiana Manville, USFWS-Las Vegas at (702) 515-5240; Christiana_Manville@fws.gov
Greg Beatty, USFWS-Arizona at (602) 242-0210; Greg_Beatty@fws.gov
Nathan Darnall, USFWS-Utah at (801) 975-3330; Nathan_Darnall@fws.gov

Not Wanted in Arizona: Tamarisk Leaf Beetles



Tamarisk beetles at St. George, Utah

Credit: Mary Ann McLeod, SWCA Assoc

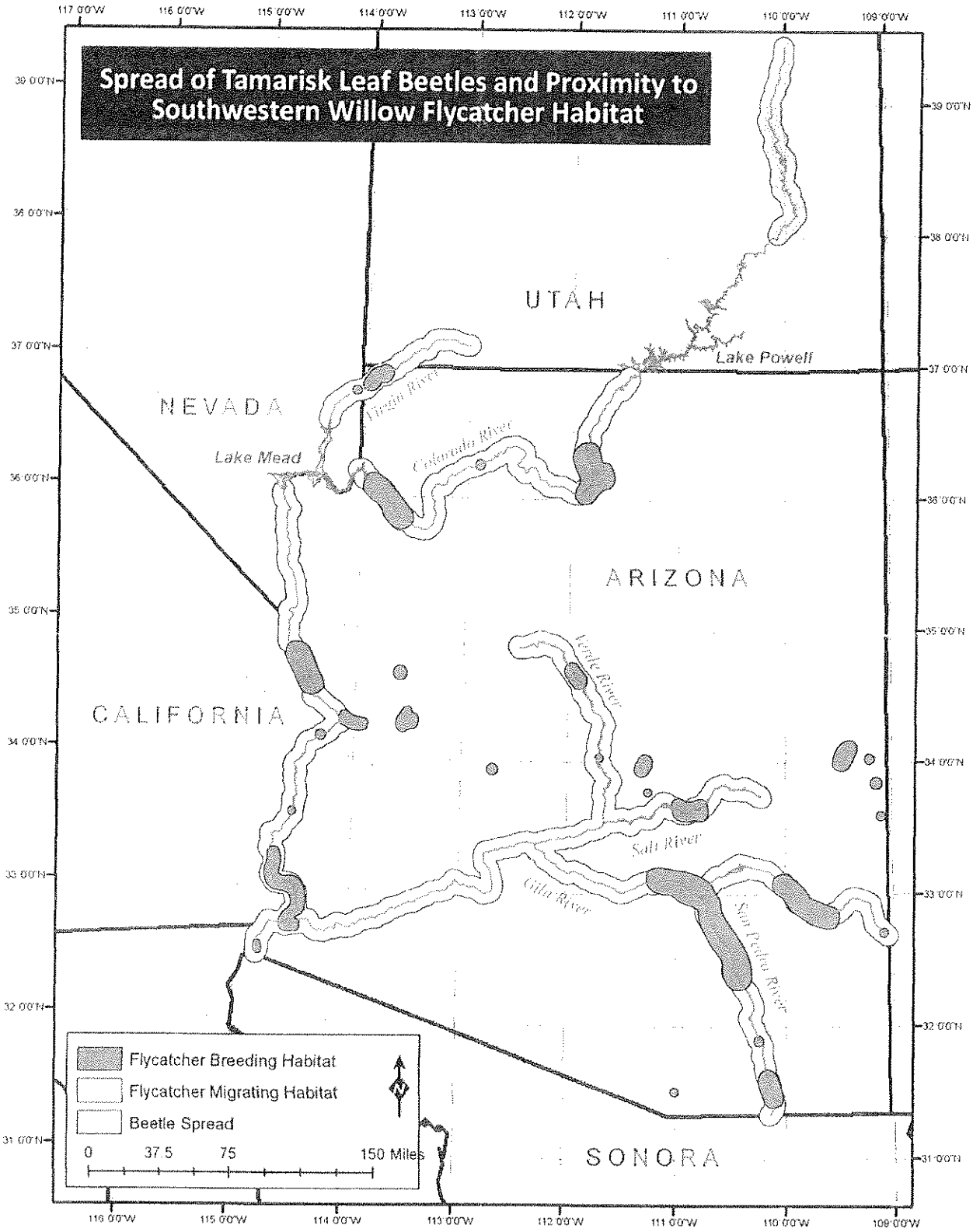


Tamarisk beetle defoliation below St. George, Utah

Credit: Christiana Manville, U.S. Fish & Wildlife Service

Southwestern willow flycatcher nest in defoliated tamarisk on Virgin River, St. George, Utah

Credit: Pam Wheeler, Utah Division of Wildlife Resources


Spread of Tamarisk Leaf Beetles and Proximity to Southwestern Willow Flycatcher Habitat
UTAH
NEVADA
ARIZONA
CALIFORNIA
SONORA
Lake Powell
Lake Mead
Virgin River
Colorado River
Little Colorado River
Salt River
Gila River
San Pedro River
Flycatcher Breeding Habitat
Flycatcher Migrating Habitat
Beetle Spread
0 37.5 75 150 Miles
117 0'0"W
116 0'0"W
115 0'0"W
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United States Department of the Interior

U.S. Fish and Wildlife Service
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In Reply Refer To:
AESO/SE

November 10, 2008

Memorandum

To: Field Supervisor, Fish and Wildlife Service, Albuquerque, New Mexico
Field Supervisor, Fish and Wildlife Service, Carlsbad, New Mexico
Field Supervisor, Fish and Wildlife Service, Sacramento, California
Field Supervisor, Fish and Wildlife Service, Ventura, California
Field Supervisor, Fish and Wildlife Service, Las Vegas, Nevada
Field Supervisor, Fish and Wildlife Service, Salt Lake City, Utah
Field Supervisor, Fish and Wildlife Service, Grand Junction, Colorado
Field Supervisor, Fish and Wildlife Service, Austin, Texas

From: Field Supervisor

Subject: Salt Cedar (Tamarisk) Biocontrol Program in Regions 2, 6, and 8, and Southwestern Willow Flycatchers (*Empidonax traillii extimus*) (flycatcher)

Thank you for the continued coordination of your staff in the issue of salt cedar, flycatchers, and biocontrol tamarisk beetles. We have transmitted the following information below in a draft briefing to our Regional Director (RD) and have also provided it to the Las Vegas, Nevada (NV) and Grand Junction, Colorado (CO) Field Offices to forward to RD's in Regions 6 and 8.

An experimental biocontrol program to control tamarisk is underway by U.S. Department of Agriculture (USDA), Animal Plant and Health Inspection Service (APHIS) by releasing tamarisk leaf beetles (*Diorhabda elongata*) (beetle).

APHIS entered into Section 7 consultation for releases throughout much of the west and portions of the southwestern United States beginning in 1998 (USFWS 1999, 2003, 2004, 2005a, 2005b), receiving concurrences for the flycatcher rangewide and for designated critical habitat (only in then, Region 1). Arizona (AZ) and much of New Mexico (NM) (primarily the greater Rio Grande drainage) were omitted from these proposals because even in the absence of tamarisk, landscape level changes to riparian areas along rivers (from damming, timing of water releases, river diversion, water storage, agricultural return flow, groundwater pumping, levees, etc.) prevent the complete restoration/development of native riparian forests. Approximately 30% of all flycatcher territories are dominated by tamarisk and 53% contain tamarisk (Durst *et al.* 2006). The Flycatcher Recovery Team recommended a 200-mile buffer between beetle releases and flycatcher habitat (USFWS 2002).

In the referenced consultations, flycatcher effect determinations/concurrences were based upon the belief that the Fukang, China, Chilik, and Kazakhstan ecotypes of the beetle would move only "tens of feet per year" (USFWS 1999) and would not overwinter or establish below the 38th parallel (USDA 2005, 2008).

This year, beetles were found in occupied flycatcher habitat and designated critical habitat in AZ and Utah (UT) along the Virgin River (Figure 1) and historically occupied flycatcher habitat at Meadow Valley Wash, in southern NV.

In 2006, unauthorized collection, transportation, and release of beetles occurred on the Virgin River in St. George, UT (USDA 2008). The beetles have spread downstream into AZ (25+ miles) to just below the 37th parallel. Beetles are now known to move much greater distances than anticipated [at least 50 miles over a three-year period (2001 to 2004) in northern NV (USDA 2005)]. Occupied flycatcher nesting habitat was defoliated during the 2008 flycatcher breeding season during incubation and nestling phases (Figure 1). Beetles are now present in southern UT and NV and northern AZ where they were not intended to be placed, nor were expected to survive (USFWS 2005).

We are contacting our partners such as the BLM, Bureau of Reclamation, Arizona Game and Fish Department, UT Division of Wildlife Resources, State Entomologists, and APHIS, and coordinating with other FWS Field and Regional Offices. Reclamation is particularly concerned with the movement of beetles into the boundaries of the Lower Colorado River Multi-species Habitat Conservation Plan area and how it may negatively impact the plan's success. If beetles continue to thrive at these lower latitudes, move further south, and remain effective defoliators, the adverse effect to flycatchers and other migratory and nesting riparian-obligate wildlife could extend throughout the length of the Colorado River into Mexico as well as into central and eastern Arizona, southern California (CA), and NM. This could significantly impact other conservation efforts such as Salt River Project's Roosevelt Habitat Conservation Plan. Other pathways into AZ and NM exist from releases and/or potential releases in CA, Colorado (CO) and Texas (TX).

Additionally, APHIS has reported that trees impacted by the beetles are not dying at the 80% rate as previously indicated, but mortality is between 25 and 50% (S. Usnick, APHIS, pers. com.). Trees are defoliating during the spring/summer and resprouting in the fall, generating concern that the creation of additional leaf litter without killing trees may cause an increased fire risk.

We believe tamarisk biocontrol poses a serious risk to the recovery of the flycatcher and the status of riparian-dependent wildlife in AZ and NM, and possibly in CA, southwestern CO, and southern NV and UT. AESO intends to draft a white-paper on tamarisk and biocontrol activities for Regions 2, 6, and 8 to re-affirm the Recovery Plan's biocontrol guidance and to form a consistent FWS approach/position. We have asked for a briefing with our ARD to develop strategies for FWS, APHIS, and other necessary partners to discuss and/or implement: 1) reinitiation of consultations; 2) monitoring/reporting of existing releases; 3) appropriateness of future releases; 4) prevention of future unauthorized collection/distribution; 5) coordination with tamarisk-removal coalitions/advocates/researchers; 6) on-the-ground efforts to prevent beetles in southern NV and UT from reaching the lower Colorado River; 7) additional pathways to AZ and NM from CA, NV, UT, CO, and TX, and 8) viability of riparian restoration efforts at locations affected by the beetles.

If you have any questions, please contact Greg Beatty (x247) or Debra Bills (x239) at this office.

/s/Ed Newcomer for Steven L. Spangle

cc (electronic transmission):
Regional Director, Fish and Wildlife Service, Albuquerque, NM (Attn. S. Jacobsen)
Larry Riley, Arizona Game and Fish Department, Phoenix, AZ
Josh Avey, Habitat Branch Chief, Arizona Game and Fish Department, Phoenix, AZ

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Figure 1. Nesting southwestern willow flycatcher, Duck Pond Breeding Site, 7/25/08, Virgin River, St. George, Utah

Photo by Pam Wheeler, Utah Division of Wildlife Resources

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