



CENTER for BIOLOGICAL DIVERSITY

Biodiversity: Life is Precious.

April 13, 2018

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Dear Messrs. Perdue, Joyner, Dewberry, Zinke, Sheehan, Spangle and Gray, and Meses. Christiansen and Lueders,

RE: Notice of Intent to Sue the U.S. Department of Agriculture (USDA), the U.S. Forest Service (USFS), the U.S. Department of Interior (DOI), and the U.S. Fish and Wildlife Service (USFWS) for failing to reinitiate Endangered Species Act (ESA) consultation on termination of the Columbine area special use permits in order to secure essential recovery habitat to aid survival of the critically endangered Mount Graham Red Squirrel.

The following satellite image, from AUGUST 11, 2004, AFTER the 2004 Nuttall Complex fire, shows the blackened, TORCHED old-growth spruce-fire forest with the August 7, 2004, fire lines, and August 8, 2004, wind direction and wild fire locations:



The following aerial image, from November 7, 2010, shows the unnecessarily torched spruce-fir forest from the LBT to High Peak. The August 7, 2004 fire lines and the August 8, 2004, wind direction and wild fire locations are superimposed.



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Prior to the Nuttall Complex fire, the spruce-fir in the area of the telescopes was recovering from its earlier spruce-beetle infestation and was starting to produce cones again.⁷

Even before the astronomers' focused pressure on firefighters to destroy forest near the telescopes, firefighting activities were already prioritized towards protecting telescopes as opposed to protecting endangered Mount Graham Red Squirrel habitat. Documentation of the Forest Service's prioritization can be found in the Forest Service's July 3, 2004, Nuttall Complex Wildland Fire Situation Analysis.⁸ Protection of endangered Mount Graham Red Squirrel habitat was not the priority:

"The alternative selected is designed to give consideration to fire fighter safety while minimizing loss to Mt. Graham International Observatory, Heliograph Peak Electronic Site, recreation residences and developed recreation facilities."

The firefighters' firefighting priority uses a rating system with the highest priority rating, "high = 10." The telescopes were prioritized as their highest priority:

"Economic...Mt. Graham International Observatory...[Priority high = 10]... 10."

In contrast, protection of endangered Mount Graham Red Squirrel habitat was prioritized lower:

"Environmental...T&E Species...This location is the only habitat for the Mt. Graham Red Squirrel...[Priority high = 10]...8."

In addition to our documentation of the spruce-fir acreage destroyed needlessly,⁹ Mount Graham Red Squirrels confirmed to have been killed by other telescope related activities have already been quantitatively documented twice. In 1996, with the Clark Peak fire, and again in 2004, with the Nuttall Complex fire, firefighting efforts related to the telescopes, independent of firefighting efforts to protect squirrel and forest, killed squirrels whose deaths could be documented. In 1996, Clarke Peak fire telescope related activities killed at least seven endangered red squirrels.¹⁰ In 2004, Nuttall Complex fire telescope related activities killed at least seven endangered red squirrels, one who was lactating (i.e., she had babies).¹¹

⁷ Personal communications with (1) Dr. Robert Witzeman, including as photographically documented, May 22, 2003, (2) with Sky Island Alliance Executive Director David Hodges, November 6, 2010; and (3) with two agency officials, one Forest Service and the other USFWS on November 8, 2010 (neither who wants their name publicly disclosed owing to fear of their agencies' retribution).

⁸ Nuttall Complex Wildland Fire Situation Analysis Incident Number: AZ-CNF-000052, U.S. Forest Service, July 3, 2004.

⁹ Notice of Intent to Sue, Center for Biological Diversity, December 22, 2010.

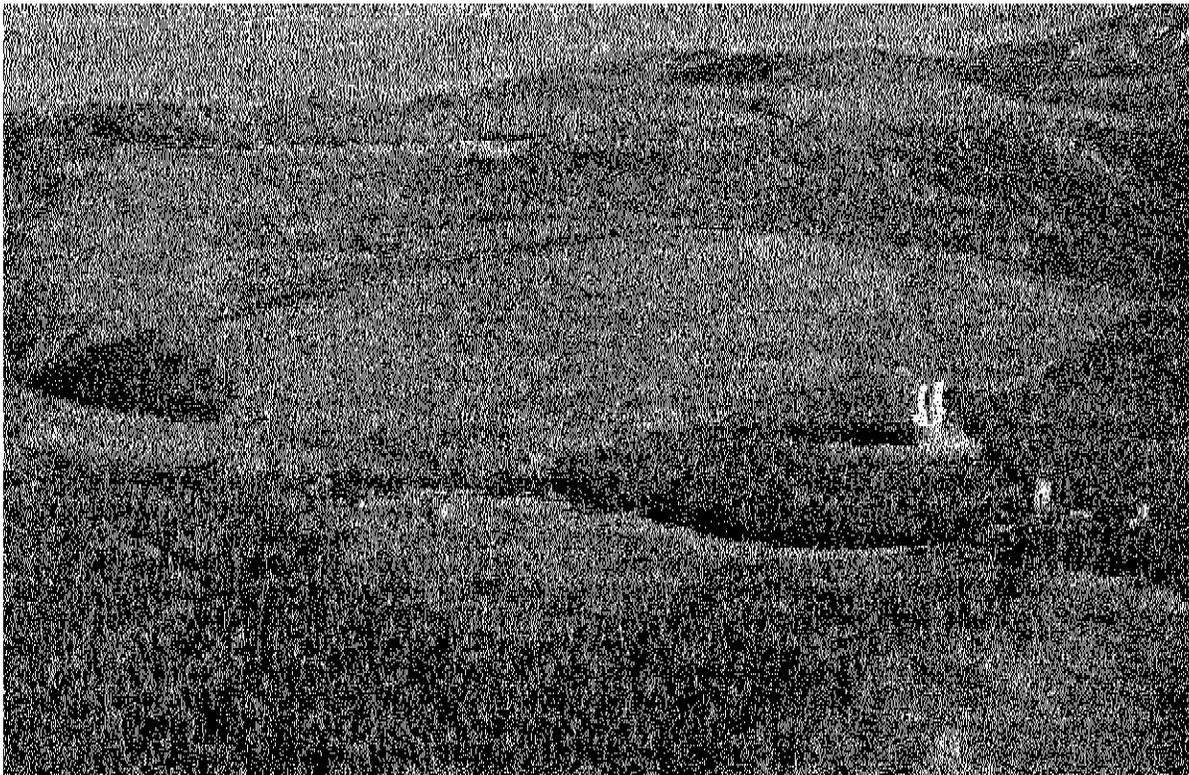
¹⁰ *Biological Assessment and Evaluation for Clark Peak Fire Emergency and Rehabilitation*, Consultation #60658793, USFS, August 30, 1996. *Biological Opinion on Clark Peak Fire Emergency Suppression and Rehabilitation*, USFWS, October 2, 1997.

¹¹ *The University of Arizona Mt. Graham Red Squirrel Monitoring Program 2004 Annual Report*, April 29, 2005.

In rare instance of agency candor, likely the result of an administrative editorial lapse, the Forest Service summarizes, though still understates, the effects of structure-related firefighting to the detriment of the essential Mount Graham Red Squirrel habitat. In February 2010, the Forest Service observed,

“The MGIO and other modern developments on the mountain have precipitated aggressive firefighting techniques, and inhibited the restoration of the natural ecosystem processes.”¹²

The following aerial image, made on November 7, 2010, looking to the south, shows a focused image of the unnecessarily destroyed 250 acres of spruce-fir forest east from the Columbus, now renamed the Large Binocular Telescope (LBT), to just west of High Peak. Also note the illegal clearing around the LBT that should have already triggered reinitiation of consultation between USFS and USFWS for exceeding the installation’s contractual 8.6 acre limitation.



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Trees are a known problem for astronomers. Mount Wilson astronomers Laird Thompson and Scott Tear summarize the problem:

“...pines growing close to the telescope distort the air and disrupt their research...”

“The Forest Service won’t allow them to cut the pines...”

¹² Final Environmental Impact Statement for the Pinaleno Ecosystem Restoration Project, United States Department of Agriculture Forest Service Southwestern Region, MB-R3-05-3, February 2010.

"The trees also produce sticky pollen that coats the huge 100-inch mirror at the telescope's base..."

("Wilson Looking for Visitors, Officials at Mountaintop Observatory Fret over Drop in Tourism," Becky Oskin, Staff Writer, Daily News, Los Angeles, CA, July 14, 2002.)

Until recently, the trees around the Mount Graham telescopes have similarly been a problem for Mount Graham astronomers:

"[Mount Graham] Air Quality...Existing Situation...Natural additions to the air come from...terpenes from conifers, dust from wind action, spores, and pollen."¹³

"Cerro Pachon appears quite similar to Mauna Kea, with very little turbulence. The effect of trees on Mt. Graham is quite pronounced."¹⁴

"Without the topping of the trees in the viewpath the submillimeter telescope cannot function."¹⁵

"Considering trees, trees tend to hold in cold air near the mountain surface, creating a reservoir of cold air, whereas barren mountain surfaces are more readily swept clean of their cooled surface air. Thus, somewhat less turbulence is associated with a mountain having few trees."¹⁶

"Those of us with forested mountains in southern Arizona often look enviously at the photographs of treeless Cerro Paranal...The trees have the effect of raising the turbulent boundary layer from the ground to the top of the tree canopy...I joke that we have found the solution to this problem of trees when the Clark Peak forest fire started on Mt. Graham..."¹⁷

By successfully pressuring fire fighters to needlessly destroy the spruce-fir forest by the telescopes, Mount Graham astronomers have successfully "found the solution to this problem" for "years to come":

"Thursday, July 08 23:00 MST...The Observatory is in excellent shape -- all perimeter lines have been burned out and it rained a bit on site today. The high humidity and low wind on the mountain reduced the intensity of fire considerably. We are in a very defensible position (and that's for years in the future)...Cheers..."

(News Brief, Thursday, July 08 23:00 MST, John R. Ratje, Site Manager, Mount Graham International Observatory, http://kp12m.as.arizona.edu/new_articles/nuttall_fire_2004/News_Briefs/news_brief_070804b.htm.)

Not surprisingly, when USFWS did a June 8, 2007, retrospective Biological Opinion on the Nuttall Complex fire, there was no analysis of the prioritization of the firefighting of telescopes to the detriment of Mount Graham Red Squirrel habitat. The Biological Opinion contains no details necessary to objectively evaluate the tragic, unnecessary loss of the 250

¹³ Ibid.

¹⁴ *Site Survey Progress Report, Cerro Pachon, Mauna Kea, and Mount Graham*, Doug Geisler and Bill Weller, National Optical Astronomy Observations Newsletter, No. 21, 1 March 1990, pp. 32 – 34.

¹⁵ *Correspondence, from USFWS Regional Director Michael Spear, to USFS Regional Forester David Jolly, RE: Withdrawal of the request for additional acreage for road widening and viewpath clearing may be inappropriate as documentation exists to show both proposals may be needed*, September 19, 1989.

¹⁶ "The Effects of Mountain Topography and Trees on Astronomical Seeing and Turbulence in the Local Boundary Layer," Cromwell, R. H., Blair, C. N., & Woolf, N. J.; American Astronomical Society, 181st AAS Meeting, id. 74.03; Bulletin of the American Astronomical Society, Vol. 24, p. 1238.

¹⁷ The LBT Project, JM Hill, UA Steward Observatory, 1996.

acres of spruce-fir essential for long-term Mount Graham Red Squirrel. Incredulously, USFWS concluded:

“After reviewing the current status of the MGRS and its associated critical habitat, the environmental baseline for the action area, the effects of the actions taken to suppress and rehabilitate the Nuttall-Gibson Complex Fire, and the cumulative effects, it is our biological opinion that the actions, as described, neither jeopardized the continued existence of MGRS, nor resulted in destruction or adverse modification of MGRS critical habitat.”¹⁸

So is spruce-fir no longer necessary for Mount Graham Red Squirrel survival and recovery? Of course it is. And was there no adverse modification of Critical Habitat by Nuttall Complex fire firefighting focused on telescope protection? Of course there was, notwithstanding obvious lack of USFWS’ objectivity and professionalism to deny it.

BACKGROUND

On January 5, 1990, when USFWS designated Critical Habitat for the Mount Graham Red Squirrel,¹⁹ the potential extent of the loss of spruce-fir forest habitat at the highest elevation was not known. Very little spruce-fir forest now survives owing to (1) habitat destruction by wildfire, (2) habitat destruction by firefighting efforts focused on the protection of telescopes and structures as opposed to protection of endangered Mount Graham Red Squirrel habitat, and (3) habitat destruction by unnecessary back burning resulting from pressure on fire fighters by University of Arizona astronomers.

The January 5, 1990, Critical Habitat designated only high elevation spruce-fir forest:

“This squirrel is now found at the highest densities in Engelmann spruce (*Picea engelmannii*) and/or fir, especiall corkbark fir (*Abies lasiocarpa* ver. *Arizonica*)...

Critical habitat is being designated for the Mount Graham red squirrel to include tree areas in the Coronado National Forest...Hawk Peak/Mount Graham, Heliograph Peak, and Webb Peak...

Hawk Peak-Mount Graham Area. The area above the 10,000-foot...contour surrounding Hawk Peak and Plain View Peak, plus the area above the 9,800-foot...contour that is out of lines extending from the highest point of Plain View Peak...

Heliograph Peak Area. The area on the north facing slope of Heliograph Peak that is above the 9,200 foot...contour surrounding Heliograph Peak...

Webb Peak Area. The area on the east-facing slope of Webb Peak that is above the 9,700-foot...contour...

¹⁸ Biological Opinion on the wildfire-suppression actions associated with the Nuttall-Gibson Complex Wildfire, AESO/SE 02-21-04-M-299, June 8, 2007.

¹⁹ United States Department of the Interior Fish and Wildlife Service Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Endangered Mount Graham Red Squirrel (*Tamiasciurus hudsonicus grahamensis*), Final rule, Federal Register Vol. 55, No. 4, January 5, 1990, page 425.

The major constituent element is dense stands of spruce-fir forest.”²⁰

Currently designated Critical Habitat does not include the lower elevation forest where all Mount Graham Red Squirrels now survive. Currently designated Critical Habitat fails to include habitat “essential to the conservation of the species” required by 16 U.S.C. § 1532(5).

Ironically, on August 1, 1990, USFWS acknowledged that its January 5, 1990, designated Critical Habitat failed to include habitat “essential to the conservation of the species,” as required by law. On August 1, 1990, USFWS produced a Biological Opinion Update recognizing the importance of habitat and migration corridors beyond the highest elevation spruce-fir forest designated as Critical Habitat.²¹

The August 1, 1990, USFWS Biological Opinion Update observes:

“An important function of the spruce/fir habitat type appears to be to provide a good “boom” in the “boom and bust” population fluctuations typical of red squirrels. By itself, however, this habitat type is not sufficient to maintain the population over long time periods. Other habitat types are needed to carry the squirrels through regular periods of low population size. As each habitat type is important at different times, the significance of the loss of part of a given habitat type should be considered relative to the amount of available habitat of that type. The proposed [telescope] project would remove old-growth trees from a spruce/fir habitat type that is limited to less than 800 acres above 10,200 ft. elevation.

The biological opinion did not consider the importance of different habitat types whose quality is continually shifting to the degree now known. The opinion erroneously considered the spruce/fir forest to be essentially the only occupied habitat type during periods of very low population size...

The Ash Creek drainage [site of the Columbine recreational summer cabins and camp] contains the major block of good habitat for red squirrels outside of the spruce/fir forest. Other blocks of similar habitat have been degraded by logging. The old-growth forest of Douglas-fir and white fir provide the cool, wet conditions required for long-lasting middens. In years of good cone crops of Douglas-fir (and, to a lesser extent, white fir), this habitat type presumably provides conditions for high rates of survival and reproduction. Because it is lower in elevation than the spruce/fir habitat, it is generally warmer. In the Ash Creek drainage, many areas have a northern or eastern exposure, which probably compensates somewhat for the lower elevation...

The Douglas-fir/white fir habitat type in the Ash Creek drainage is in relatively close proximity to and is contiguous with two prime areas of spruce/fir forest: Webb Peak to the west and, to the southeast, Emerald Peak, Hawk Peak, and High Peak. These areas are arrayed roughly linearly, from Webb Peak in the northwest to High Peak in the southeast. Significant roads, firebreaks, and clearings exist in the spruce/fir forest above 10,200 ft. elevation on Emerald Peak,

²⁰ Ibid.

²¹ Biological Opinion Update Team Findings and Recommendations, Report of the Mt. Graham Red Squirrel Biological Update Team, United States Department of the Interior Fish and Wildlife Service, FWS/DHC/BFA, August 1, 1990.

Hawk Peak, and High Peak , accounting for an estimated 13% loss of this habitat...

Significance:

Regular dispersal between the Ash Creek drainage and the main stand of spruce/fir forest to the southeast focuses attention on the need for good dispersal habitat joining these areas. Emerald Peak lies at this junction...The importance of good dispersal habitat was not realized at the time of preparation of the biological opinion...

In summary, the Team believes that reinitiation of consultation is warranted based on three forms of new biological information:

- The population density in the spruce/fir forest has declined to an extremely low level.
- Dispersal among areas apparently is an important aspect of the ecology of the Mount Graham red squirrel. Substantial fragmentation of the habitat inhibits dispersal and is likely to increase mortality among dispersers...

Part of the terms and conditions of reasonable and prudent alternatives 2 and 3 included the provision that the Special Use Authorizations (SUA) for 14 summer cabins and the Church of Christ Bible Camp not be renewed in 1992, and the facilities removed to permit reforestation of the area. Forest Service regulations allow for the removal of such facilities over a several year span after the permit period ends. The acreage available at these sites totaled 17 acre (14.5 acres of homes and 2.5 acres of camp).The removal of these facilities would have allowed for the removal of a road that currently divides the Webb Peak and Emerald Peak habitats thus gaining additional acreage. The opinion assumed that reforestation of these areas would begin prior to 2002...

4. EVALUATION OF CRITICAL HABITAT DESIGNATION

Critical habitat refers to the specific areas within the geographical area occupied by a species at the time it is listed on which are found those physical and biological features essential to the conservation of the species (50 CFR 424.12). Conversely, areas not included as critical habitat are not considered essential to the conservation of the species. The critical habitat that has been designated does not include hundreds of acres of occupied habitat in the Ash Creek drainage, below the critical habitat line on Webb Peak, near Grandview Peak, and possibly other areas. Additionally, it does not include dispersal habitat believed essential to conservation of the squirrel. There are middens in these areas, so obviously favorable physical/biological features are present. Given that the Mt. Graham red squirrel is in a precarious state and in light of new information the Team believes that a review of the critical habitat designation is warranted.

5. RECOMMENDATIONS

In light of the findings that three of the criteria found at 50 CFR 402.16 have been met the Team recommends that reinitiation of consultation be requested for the forest plan and the astrophysical plan.

In addition, it is recommended that the sufficiency of the critical habitat designation be reviewed."²²

Firefighting efforts influenced by astronomers to protect their telescopes have unnecessarily destroyed extensive amounts (250 acres or 41% of the previously surviving 615 acres) of surviving high elevation spruce-fir designated as Critical Habitat. This is clearly documented here and elsewhere²³ in spite of USFWS' unprofessional and obviously dishonest conclusion in the June 8, 2007, Biological Opinion on the Nuttall Complex fire that the Nuttall Complex fire firefighting efforts to protect telescopes did not "[result] in destruction or adverse modification of MGRS critical habitat."²⁴

But the June 8, 2007, Biological Opinion on the wildfire-suppression actions associated with the Nuttall-Gibson Complex Wildfire did state,

"With the loss of most of the spruce-fir forest, the mixed conifer zone is now much more important for survival of the MGRS; however, most of that forest type is not designated as critical habitat."²⁵

With the 2017, Frye fire, even more essential Mount Graham Red Squirrel habitat has been destroyed. Little is known yet regarding firefighting priorities or specific Mount Graham Red Squirrel deaths resulting from telescope protection and other structure protection activities as release of documentation is being delayed by the Forest Service. We await response to our outstanding Freedom of Information Act request.

In the interim, since the Nuttall Complex fire, with respect to the recreational summer cabins, in its November 24, 2008, draft Environmental Impact Statement for New Special-Use Permits for Recreation Residences, the Forest Service observed,

"...the residences have an effect on land and fire management, in that Forest Service fire responses have been premised on the protection of private property rather than on the restoration of ecosystem functions or the protection and expansion of the habitat of endangered species."²⁶

²² Biological Opinion Update Team Findings and Recommendations. Report of the Mt. Graham Red Squirrel Biological Update Team, United States Department of the Interior Fish and Wildlife Service, FWS/DHC/BFA, August 1, 1990.

²³ Notice of Intent to Sue the U.S. Department of Agriculture (USDA) and the U.S. Forest Service (USFS) for failing to reinstate Endangered Species Act (ESA) consultation with the U.S. Fish and Wildlife Service (USFWS) regarding (1) the Mount Graham telescope project and its resulting jeopardy to the endangered Mount Graham Red Squirrel, and (2) regarding destruction of Critical Habitat, http://www.biologicaldiversity.org/species/mammals/Mount_Graham_red_squirrel/pdfs/NOI%2020101222%20FINAL.PDF, Center for Biological Diversity, Maricopa Audubon Society, and the Mount Graham Coalition, December 22, 2010; Petition to Petition to revise the January 5, 1990, Mount Graham Red Squirrel Critical Habitat to reflect the current change in status of the squirrel and its habitat, http://www.biologicaldiversity.org/campaigns/sky_islands_conservation/pdfs/PetitionToReviseMountGrahamRedSquirrelCriticalHabitat_12-14-2017.pdf, Center for Biological Diversity, Maricopa Audubon Society, and the Mount Graham Coalition, December 14, 2017.

²⁴ Biological Opinion on the wildfire-suppression actions associated with the Nuttall-Gibson Complex Wildfire, AESO/SE 02-21-04-M-299, June 8, 2007.

²⁵ Ibid.

²⁶ Draft Environmental Impact Statement for New Special-Use Permits for Recreation Residences on the Safford Ranger District, USDA Forest Service Coronado National Forest, November 24, 2008, page 9.

And again, in September 2014, in its September 2014, final Environmental Impact Statement for Recreation Residencies, the Forest Service also observed,

“...the residences have an effect on land and fire management, in that Forest Service fire responses have been predicated on the protection of private property rather than on the restoration of ecosystem functions or the protection and expansion of the habitat of endangered species.”²⁷

What we do know that the Mount Graham Red Squirrel population numbers are now critically low. And we now also know that the surviving squirrels are found primarily in four areas, all outside of the upper elevation spruce-fir forest now designated as Critical Habitat. These four areas are the Grant Hill area, the Riggs Lake area, Turkey Flat, and Columbine.

The February 10, 1988, Expanded Biological Assessment proved prophetic:

“In endangered species the key to persistence may be “hot spots” of the habitat (Diamond 1975). These hot spots are places where the mean growth rates at low density are consistently positive. Thus the hot spot may serve as a refugia where the assurance for persistence in the entire range arises...In the Pinalenos, there are four locations that could serve as hot spots with the Mt. Graham area being the largest and most spruce-fir based. The other possible locations are Columbine/Ash Creek, Heliograph Peak and perhaps Webb Peak.”²⁸

The May 3, 1993, Mount Graham Red Squirrel Recovery Plan also speaks to the necessity of protection and restoration habitats beyond spruce-fir:

“The most important step in preventing short-term extinction is to protect existing habitat from further loss or fragmentation. Protection of suitable habitats will be a major priority in efforts to increase and stabilize the Mt. Graham red squirrel population. Even small losses of habitat are of concern, especially in light of habitat losses to natural causes that are likely to occur and the precarious situation of a fragmented forest...”

Protection and restoration of habitat. This is the most important factor for continued survival of the Mt. Graham red squirrel. Because habitat is limited, further habitat losses could cause extinction in the near future. Many areas of potentially suitable habitat are degraded.

Restoration of degraded areas is essential...”²⁹

As stated above, the squirrels are now found at four locations. These four areas are the Grant Hill area, the Riggs Lake area, Turkey Flat, and Columbine. All these elevations are outside of and lower in elevation than the currently designated Critical Habitat.

²⁷ Final Environmental Impact Statement, New Special-Use Permits for Recreation Residencies on the Safford Ranger District, USDA Forest Service Coronado National Forest, September 2014, p. 10.

²⁸ Mount Graham Red Squirrel, An Expanded Biological Assessment of Impacts, Coronado National Forest Land Management Plan and University of Arizona Proposal for Mt. Graham Astrophysical Development, February 10, 1988.

²⁹ Mount Graham Red Squirrel, Tamiasciurus hudsonicus grahamensis, Recovery Plan, U.S. Fish and Wildlife Service, May 3, 1993.

THE COLUMBINE RECREATIONAL STRUCTURES MUST BE REMOVED TO PROVIDE FOR RECOVERY OF THE MOUNT GRAHAM RED SQUIRREL

The Ash Creek drainage/Columbine area habitat currently occupied by recreational structures was supposed to be restored as a result of the July 14, 1988, Biological Opinion to mitigate for habitat loss to the telescopes.

The July 14, 1988, Biological Opinion's Reasonable and Prudent Alternative 3, which was codified into law by the Arizona-Idaho Conservation Act, states:

"Because of the increased short-term risk resulting from this alternative, it becomes even more imperative that habitat restoration via reforestation be accelerated. Acreages not presently considered for restoration must be included. The summer homes at Columbine and the Arizona Bible Camp are along a forest road that leads into the Ash Creek drainage, an area that has considerable potential for red squirrels. Removal of the Bible Camp and summer homes would enable those acreages (2.5 and 14.5 respectively) to be incorporated into forest restoration plans for the area. The summer home area was projected to recover to good to excellent habitat, the Bible Camp to fair.

These two areas are not in the spruce-fir vegetation type considered to be the best available for the red squirrel but are rather in the mixed conifer. Because this is the habitat type where the Forest Service predicts the greater gains in red squirrel equivalents over time (USDA-FS 1988), any augmentation to this area, especially in the Ash Creek drainage is worthwhile. Removal of the Bible Camp and summer homes and subsequent restoration represents the best opportunity to regain previously lost habitat outside the refugium..."

The July 14, 1988, Biological Opinion's Reasonable and Prudent Alternative 3, which was codified into law by the Arizona-Idaho Conservation Act, requires:

Features...19. Permits for the 14 summer homes at Columbine and the Arizona Bible Camp will not be renewed in 1992. These areas and the access road will be actively reforested to manage for red squirrel habitat once the facilities are removed.

But the recreational structures are still there. They remain because the University of Arizona representatives, Senator McCain, Senator DeConcini and Representative Kolbe, overruled USFWS in the November 18, 1998, Arizona-Idaho Conservation Act by including a closing time extension and a study requirement to delay their removal. The University of Arizona had their representatives delay closure of the recreational structures to prevent a local backlash against the University of Arizona and its astronomers after the University and its astronomers took possession of and excluded the public from the Mountain's summit.

The following aerial of the Ash Creek drainage area and the Columbine area show that not only is the area essentially intact, but that its restoration as Mount Graham Red Squirrel habitat is now more important than ever. The following November 2, 2017, Mount Graham aerial looks to the East from the Ash Creek drainage/Columbine area to the Large Binocular Telescope, and High Peak in the left upper corner of the image. Heliograph is visible in the right upper corner. The parking lot of the Forest Service Columbine work station is visible in the lower right side of the image.



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USFWS acknowledges that:

“The Old Columbine summerhome area (25 acres) exists in MGRS suitable habitat.”³⁰

The recreational structures in the Ash Creek drainage/Columbine area have been evaluated twice since the July 14, 1988, Biological Opinion’s recommendation for their removal. On July 12, 2006, USFWS produced a Biological Opinion on the Columbine area’s Special Use Area Fuel Reduction project:

“You propose to conduct thinning (by prescribed cut) and pile and or broadcast burns (prescribed fire) in five Special Use areas in the Pinaleno Mountains to reduce fire hazards at these long-standing, developed sites. These sites are: Ladybug Saddle Communications Permit, Turkey Flat Summerhome Area,

³⁰ Mount Graham Red Squirrel (*Tamiasciurus hudsonicus grahamensis*); 5-Year Review: Summary and Evaluation, U.S. Fish and Wildlife Service Arizona Ecological Services Field Office, Phoenix, Arizona, June 15, 2015.

Heliograph Electronic Site, Old Columbine Summerhome Area, and Arizona Church of Christ Bible Camp...

Old Columbine Summerhome Area...A 200-foot treatment strip surrounding (and including) the cabin areas contributes to a total of 43 acres; treatment will occur within this treatment site...

MGRS...Several historical midden locations occur in the general area; three occur within treatment site. The three midden locations that occur in this treatment site were recently surveyed (June 7, 2006) by qualified personnel. Two of the three midden locations were considered active; the last one disappeared due to opening of the canopy by the apparently natural fall of the canopy producing trees that made up this midden location. The two active middens occur just outside the edge of the treatment site boundary...

Arizona Church of Christ Bible Camp...This fairly flat site of 24 acres includes a 200-foot treatment strip surrounding the camp and cabins...Burning will not occur on the southern or western sides because spruce and fir (corbark and/or subalpine) trees dominate these areas....

Effects of Interrelated and Interdependent Actions...The special use authorizations for the Old Columbine Summerhomes and Bible Camp are coming due for renewal in 2008. Renewal of these authorizations was addressed in our July 1988 jeopardy Biological Opinion on the Mount Graham Astrophysical Sites. Reasonable and Prudent Alternatives 2 and 3 of that jeopardy opinion called for not renewing the Summerhome and Bible Camp leases and removal of the structures. Title VI of the Arizona-Idaho Conservation Act adopted much of Alternative 3, but provided that a study would be conducted to determine the effects of the authorizations, and prescribed that a formal consultation would be conducted on proposals to renew such authorizations. The project treatments proposed herein are needed to protect the structures and recreation areas and to reduce liability risks for the Coronado National Forest. The treatments are needed whether or not the special use authorizations are renewed, and renewal or denial of the authorizations could occur with or without the treatments; hence, renewal of the special use authorizations are not interrelated or interdependent actions and the effects of such renewals or denials are not effects of the proposed action (50 CFR 402.02)."³¹

On March 9, 2006, the Forest Service announced in the Federal Register a Notice of intent to prepare an environmental impact statement for renewal of Special-Use Permits for recreational residences on Mount Graham. The draft Environment Impact Statement (DEIS) was released on November 24, 2008.

³¹ United States Department of the Interior Fish and Wildlife Service Arizona Biological Opinion, AESO/SE 02-21-05-1-0818 Biological Opinion on the proposed Mount Graham Special Use Area Fuel Reduction project, Graham County, Arizona, July 12, 2006.

The DEIS, and the subsequent September 2012, Final Environmental Impact Statement, did admit,

“Human presence at the recreation residences and, in general, all recreation sites on Mt. Graham, increases the probability that individual squirrels may be accidentally injured or killed. In addition, squirrels are at risk from the effects of catastrophic wildland fire, which continues to occur on the mountain because fire suppression in MGRS habitat at Old Columbine and other manmade facilities (the wildland-urban interface or WUI), has and will continue to be an impediment to the return of a frequent, low-intensity, natural fire cycle to the ecosystem...

“...the residences have an effect on land and fire management, in that Forest Service fire responses have been premised on the protection of private property rather than on the restoration of ecosystem functions or the protection and expansion of the habitat of endangered species.”

Before the DEIS was released on November 24, 2008, USFWS produced a Biological Opinion on the recreational summer cabin permits renewals. On August 18, 2008, USFWS Biological Opinion on the Columbine recreational summer cabin home permit renewals states:

“You propose to re-issue the special use permits for two summerhome areas (Old Columbine and Turkey Flat) located in the Pinaleño Mountains (the Grahams, or Mt. Graham) for the next 20 years (January 1, 2009 through December 31, 2028). The proposed action would permit the continuance of human-use patterns currently in effect in these areas by allowing the current cabins/structures to remain on the landscape and continue to be occupied.

The project area consists of two parts: the approximately 25 acres of mixed-conifer in the Old Columbine area and about 52 acres in the predominately ponderosa pine and pine-oak types in the Turkey Flat area. Both summerhome areas consist of cabins and associated structures scattered through a forested landscape. A total of 14 and 74 summerhomes will be re-permitted in the Old Columbine and Turkey Flat areas, respectively. Associated existing structures (outhouses, water tanks, a community-use building) occur within the Old Columbine and Turkey Flat summerhome areas, with the water tank for Turkey Flats located on the farthest, southwestern edge of the summerhome area boundary...

Our biological opinion (BO) pursuant to section 7 of the Act for the proposed astrophysical development and Forest Management Plan was completed on July 14, 1988. The Forest Management Plan was found not to jeopardize the continued existence of MGRS; but the proposed seven-telescope astrophysical development was found to jeopardize the continued existence of MGRS. Three reasonable and prudent alternatives were described, but before the Forest Service (FS) agreed to any, the AICA was passed by Congress. It mandated the third reasonable and prudent alternative with some modifications. It authorized the construction of three telescopes on Emerald Peak, necessary support facilities, and an access road to the site. The law further required the University of Arizona (UA), with the concurrence of the Secretary of the Interior, to develop a management plan for the

MGRS. Construction of additional telescopes will require a new section 7 consultation. The 1988 BO established the MGRS Refugium; the boundary of which became the boundary for MGRS critical habitat.

Reasonable and prudent alternative 3 in the 1988 BO included removal of the summerhomes at Columbine; however, section 605(a) of the AICA allowed continued special use authorizations for the Columbine summerhomes and the Arizona Bible Camp for the duration of the term of the permits in place at that time. The AICA also mandated that prior to the "termination, nonrenewal, or modification" of those authorizations, the Secretary of Agriculture shall, with assistance from the FWS, conduct a biological study to determine the effects of such authorizations upon the MGRS and other threatened or endangered species. The current proposed action does not include termination, nonrenewal, or modification of those special use permits, hence that study is not required prior to implementation. Section 605(a) of the AICA goes on to require the Secretary of Agriculture to initiate consultation with the FWS regarding the "termination, nonrenewal, extension, or modification" of the special use authorizations...

The forest in and around Old Columbine summerhome area consists of Douglas-fir, southwestern white pine, and some ponderosa pine (mixed conifer), along with species characteristic of higher elevations (corkbark fir and Engelmann spruce)...

Outside the footprint of the Old Columbine summerhome area is the surrounding, relatively intact mixed-conifer forest...

CONSERVATION RECOMMENDATIONS...We recommend that you conduct a study to determine the effects the special-use-permitted summerhomes (and associated people, machinery, and activities) on the MGRS and other threatened or endangered species that may be affected. The study would include likely scenarios of plant and wildlife changes in response to the removal of the permitted summerhome areas, spatially and temporally. The scope of work for the study should be jointly developed by biologists from the FWS and Forest. The Arizona Game and Fish Department (AGFD) should be asked to assist with study design. The study should be consistent with section 605(a) of the Arizona-Idaho Conservation Act of 1988 (P.L. 100-696, November 18, 1988). That study, as prescribed in section 605(a), is necessary for the Forest to terminate, nonrenew, or modify the summerhome special use permits...

The MGRS and its critical habitat have been the subject of numerous section 7 consultations since its listing in 1987. The July 14, 1988, BO on the astrophysical development and Coronado National Forest Forest Management Plan, described above, is the only jeopardy opinion issued for the species. That BO also anticipated incidental take of five MGRS per year. In a June 8, 2007, BO, we anticipated that incidental take occurred during suppression activities in the Nuttall-Gibson Complex Wildfires...

AMOUNT OR EXTENT OF TAKE

We anticipate that in the action area, one MGRS (associated with the one currently active midden 15 feet from an outhouse in the Old Columbine summerhome area) will be taken as a result of this proposed action...We also

anticipate that one MGRS will be taken in the upper Turkey Flat summerhome area (the MGRS associated with the midden next to the access road)...

EFFECT OF THE TAKE

In this biological opinion, we determine that this level of anticipated take is not likely to result in jeopardy to the species...

REINITIATION NOTICE...This concludes formal consultation on proposed re-issuance of special use permits in two summerhome areas (Old Columbine and Turkey Flat) located in the Pinaleno Mountains. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion...³²

USFWS' opinion in this August 18, 2008, Biological Opinion that only two Mount Graham Red Squirrels would be lost with continued permitting of the recreational summer cabins was inexplicably changed and reduced from USFWS' earlier draft versions. USFWS' draft Biological Opinion, dated September 4, 2007, states,

"We have documented that at least one MGRS (associated with the one known active midden) occurs in the Old Columbine summerhome area. We are reasonably certain that take will occur as a result of the action because it is located so closely to a structure used frequently by humans. We believe it likely that midden will become abandoned or "lost", due to MGRS physically leaving it due to human proximity (15 feet from an outhouse)...

We believe there have been, and will continue to be, occasional and non-fatal (to the MGRS) disturbance and/or interaction between individual MGRS and summerhome permittees, their visitors, and (leashed) pets that may temporarily disturb or harass an individual MGRS that may be inhabiting, or passing through, the action area. We believe this could cause five MGRS (two adult and three young) to abandon their midden site. We believe this is most likely to occur to the midden site located 15 feet from a utilized outhouse in the Old Columbine summerhome area."

Similarly, the September 10, 2007, draft Biological Opinion states,

"AMOUNT OR EXTENT OF TAKE

We anticipate that at least one adult MGRS (associated with one currently active midden in the Old Columbine summerhome area near the outhouse) and five or fewer additional (adult or juvenile) MGRS associated with future active middens that may become established during the next 20 years, in or very nearby (within 250 feet) of the Old Columbine summerhome special use permit areas, will be taken as a result of this proposed action..."

In the fall of 2007 and the spring of 2008 when the population of Mount Red Squirrels was thought to be about 299 and 297, respectively, the loss of five or six squirrels would not

³² U.S. Department of the Interior Fish and Wildlife Service Arizona Ecological Services Office Biological Opinion on Mount (Mt.) Graham Summerhome Special Use Permit Residence Renewals, AESO/SE 22410-2007-F-0163, August 18, 2008.

be a jeopardy; however, now that less than 35 Mount Graham Red Squirrels remain on Earth, a jeopardy conclusion today is not escapable for the Columbine recreational summer cabins alone.

The DEIS, the subsequent September 2014, Final Environmental Impact Statement (FEIS), and the March 27, 2015, Record of Decision all rationalize their desire to renew the permits by fabricating new false numbers about suitable red squirrel habitat and using the same disingenuous minimalist acreage argument previously used by University of Arizona astronomers³³ to argue for their telescopes,

“...with the potentially suitable MGRS habitat on Mt. Graham, which is estimated to be between 17,000 to 27,000 acres, the acres at Old Columbine, when restored, would add an increment of 0.01 percent of squirrel habitat on the mountain.”³⁴

Coronado National Forest Supervisor Jim Upchurch is the Forest Service official responsible for finalizing the Record of Decision. In signing, the Record of Decision, Mr. Upchurch chose to ignore three readily accessible documents, and one that he undoubtedly had pre-publication knowledge. These include (1) the Coronado National Forest's February 10, 1998, Mount Graham Red Squirrel, An Expanded Biological Assessment, (2) John Koprowski, et al.'s August 24, 2005, Nowhere to run and nowhere to hide: Response of endemic Mt. Graham red squirrels to catastrophic forest damage, in Biological Conservation, (3) USFWS' May 2011, Draft Mount Graham Red Squirrel Recovery Plan, and (4) USFWS' June 15, 2015, Mount Graham Red Squirrel (*Tamiasciurus hudsonicus grahamensis*) 5-Year Review: Summary and Evaluation.

The Coronado National Forest's February 10, 1988, Mount Graham Red Squirrel, An Expanded Biological Assessment Coronado National Forest says,

“Biological View of Population Vulnerability

The Mt. Graham red squirrel has many continuing and natural threats to its population. The greatest concern is maintaining enough habitat to insure a viable, long-term population. The squirrel may be subject to a “habitat/population bottleneck in the immediate future sometime before the recovery of the upper elevation forests. The habitat bottleneck is due to the lack of forest in suitable condition for squirrel food and cover needs.”

³³ Mt. Graham International Observatory RELATED ISSUES, University of Arizona, June 1, 1990, “This is surely a small allocation for science when compared with the 200,000 acres in the Pinaleno region of the Coronado National Forest, the 62,000 acres of Wilderness Study Area, and the 11,000 acres of suitable squirrel habitat.”

³⁴ Draft Environmental Impact Statement for New Special-Use Permits for Recreation Residences on the Safford Ranger District, USDA Forest Service Coronado National Forest, November 24, 2008; Final Environmental Impact Statement, New Special-Use Permits for Recreation Residences on the Safford Ranger District, USDA Forest Service Coronado National Forest, September 2014.; Record of Decision: New Special-Use Permits for Recreation Residences on the Safford Ranger District, Forest Supervisor Jim Upchurch, Coronado National Forest, March 27, 2015.

John L. Koprowski, et al.'s, August 24, 2005, "Nowhere to run and nowhere to hide: Response of endemic Mt. Graham red squirrels to catastrophic forest damage," in *Biological Conservation* 126 (2005) 491-498, says,

"...Numbers of Mt. Graham red squirrels declined precipitously in insect-damaged forests suggesting a catastrophe. Conservation options are limited in such situations. Forest-insect induced catastrophes are likely to become more common in the near future as forest health declines due to past management tactics and climate change..."

"...Catastrophic events in mammals are most often associated with disease, anthropogenic overharvest, or starvation due to harsh climatic conditions (Yuill, 1987; Deem et al., 2001). Herein, we document a case of a catastrophic decline associated with habitat degradation from insect outbreaks, faced by an exceptionally isolated mammal population.

The insect outbreaks in the Pinalenos severely damaged the mature forest, resulting in a more open forest with few and small trees to produce favored tree seeds, decreased cover from predators, and probably reduced microclimates for shaded midden storage of seeds and epigeous fungal growth (Smith and Mannan, 1994; Steele, 1998)....

The squirrel may now face unprecedented conditions that could decrease the likelihood of population persistence..."

Active management strategies to reduce the risk of extinction of Mt. Graham red squirrels due to environmental catastrophes should include manipulation of habitat to increase available habitat and population size in the near and distant future...Persistence will likely require significant active management to maintain or achieve desired forest conditions that reduce risk of future catastrophes that impact habitat, while meeting the present ecological requirements of the small population of current residents."

USFWS' June 15, 2015, Mount Graham Red Squirrel (*Tamiasciurus hudsonicus grahamensis*) 5-Year Review: Summary and Evaluation says,

"Remaining suitable MGRS habitat is increasingly fragmented and degraded by insect outbreaks, poor forest health, and catastrophic wildfires....Suitable MGRS habitat continues to decline and become more fragmented as large and numerous stands of insect- and fire-killed trees die and fall...The Old Columbine summerhome area (25 acres) exists in MGRS suitable habitat... RECOMMENDATIONS FOR FUTURE ACTIONS:... Work with the CNF to return once suitable acres in MGRS habitat to suitable MGRS habitat. "

On January 26, 2009, CBD wrote to USFWS and the Forest Service, "RE: Safford Recreational Residence DEIS / Draft Environmental Impact Statement, New Special-Use Permits for Recreation Residences on the Safford Ranger District, Graham County, Arizona. We said,

"The Columbine cabins and the camp still occupy an important area between the Webb Peak squirrel population, which was specifically included within

Critical Habitat,³⁵ and the Columbine population center. In addition, the Columbine cabins and the camp still occupy an important area within the Columbine population; and between the Columbine population and across Ash Creek to the population center to the east of the camp.

Depriving the squirrel of recovering habitat in the mixed conifer zone perpetuates the piecemeal loss of habitat that has caused the squirrel's peril. Besides the mere presence of the structures, maintenance of canopy openings and clearing of the trees around in the Columbine area to protect structures to date is an example of this perpetuation.³⁶

The critical central location of the Columbine cabins and the camp is now even more important than in 1988 because of the subsequent the loss of most of the spruce-fir habitat to beetle infestation, wildfire and the excessive back-burning from Emerald Peak across Hawk Peak by overzealous fire fighters purely motivated to protect telescopes (as opposed to protection of forest and squirrel).

The fact that proposed perpetuation of the Columbine cabins will increasingly threaten the red squirrel was clearly evidenced during the 2004 fires by the cabin and camp-related back burning intended solely to protect structures (as opposed to protection of forest and squirrel). Back burning to protect the Columbine cabins was undertaken to the east just north of Owl Peak (10,298) towards Emerald to just west of the telescopes. Back burning to protect the camp was undertaken to the east across the two Ash Creek tributary streams...

We take the time here to detail the extensive back burning undertaken to protect structures (as opposed to forest and squirrel) as this will be an increasing problem with proposed perpetuation of the presence of the Columbine cabins and camp.

After the 1996 fire, prior to the crushing of the independent professionalism of Mount Graham evaluating, ground level Fish and Wildlife biologists,³⁷ the initial Biological Opinion on fire suppression for the 1996 fires concluded that the fire suppression activities,

“...likely jeopardized the continued existence of the Mount Graham red squirrel and resulted in destruction or adverse modification of designated critical habitat...”³⁸

³⁵ US Fish and Wildlife Service; Designation of Critical Habitat for the Endangered Mount Graham Red Squirrel (*Tamiasciurus hudsonicus grahamensis*); Final rule; Federal Register Vol. 55, P. 425; January 5, 1990.

³⁶ Biological Opinion, AESO/SE 02-21-05-I-0818; Correspondence, from Mr. Steven L. Spangle, Field Supervisor, Arizona Ecological Services Field Office, US Fish and Wildlife Service, Phoenix, Arizona; to Mr. William A. Schuckert, District Ranger, Coronado National Forest Safford Ranger District, Safford, Arizona; RE: Proposed Special Use Area Fuel Reduction project, Graham County, Arizona; July 12, 2006.

³⁷ Union of Concerned Scientists and Public Employees for Environmental Responsible; Focus on the Southwest 2005 U.S. Fish & Wildlife Survey in Region 2; February 9, 2005.

³⁸ Biological Opinion, #2-21-96-F-286; correspondence; from , Nancy Kaufman, USFWS Regional Director, Albuquerque, NM; to John McGee, Forest Supervisor, Coronado National Forest, Tucson, AZ; RE: Clark Peak Fire Emergency Suppression and Rehabilitation, October 2, 1997; as cited in Biological Opinion 2/ES-SE 000087RO; correspondence from Nancy Kaufman, USFWS Regional Director, Albuquerque, NM; to Charles W. Cartright; USFS Regional Forester,

After the 2004 fires, based on interviews with involved Forest Service personnel and fire fighters, and based on comparison of midden maps and satellite maps of the completely destroyed forest resulting from the hot-burned, back-burning, we concluded that at least eight more middens were destroyed purely by fire fighting efforts to save telescopes, cabins and camp, independent of efforts to save forest and squirrel. Involved Forest Service personnel were very expressive about their chagrin with the overzealous fire fighters' excessive hot burning back fire suppression activities to protect structures at the expense of forest and squirrel.

Such evidence and concern should obviously lead to the same conclusion as that from the 1996 Biological Opinion; however, for the 2004 fires, Fish and Wildlife Service concluded,

"Determining where the line is between the burn-out operations and the wildfire is impossible."³⁹

The increasing fire fighting risk to red squirrel habitat owing to the predictable defense of the Columbine cabins and camp are not examined in the detail deserving of their predictable future occurrence and past gravity.

Perpetuation of the failure to remove the Columbine recreational structures impedes habitat restoration. This is particularly important given the newly acknowledged critical importance of mixed conifer habitat for the Mount Graham red squirrel and the increasingly difficult recovery challenges for spruce-fir habitat. This is also particularly important given the fact that the effects of climate change are already apparent at higher elevations in North America.⁴⁰

In addition to the local spruce-fir habitat destruction by astronomers and the expanded destruction of spruce-fir habitat by the overzealous fire fighting efforts to protect the telescopes, spruce-fir recovery in the face of increasing global warming will be increasingly challenging.⁴¹ Neither the Biological Opinion for

Albuquerque, NM; RE: Forest Plan Consultation on the Land and Resource Management Plan, as amended, for Eleven National Forests and Grasslands in the Southwestern Region; December 19, 1997.

³⁹ Biological Opinion AESO/SE 02-21-04-M-0299; Correspondence, from: Steven L. Spangle, Field Supervisor, US Fish and Wildlife Service, Phoenix, AZ; to Ms. Jeanine Derby, Forest Supervisor, Coronado National Forest, Tucson, Arizona; RE: Wildfire-suppression actions associated with the Nuttall-Gibson Complex Wildfire located in the Pinaleno Mountains on the Coronado National Forest, Graham County, Arizona; June 8, 2007.

⁴⁰ Breshears, David D., Neil S. Cobb, Paul M. Rich, Kevin P. Price, Craig D. Allen, Randy G. Balice, William H. Romme, Jude H. Kastens, M. Lisa Floyd, Jayne Belnap, Jesse J. Anderson, Orrin B. Myers, and Clifton W. Meyer; Regional vegetation die-off in response to global-change-type drought; pp. 15144–15148 _ PNAS _ October 18, 2005 _ vol. 102 _ no. 42 www.pnas.org/cgi/doi/10.1073/pnas.0505734102 ; Van Mantgem, Phillip J., Nathan L. Stephenson, John C. Byrne, Lori D. Daniels, Jerry F. Franklin, Peter Z. Fulé, Mark E. Harmon, Andrew J. Larson, Jeremy M. Smith, Alan H. Taylor, and Thomas T. Veblen; Widespread Increase of Tree Mortality Rates in the Western United States; SCIENCE Vol. 323; p. 521; January 23, 2009.; Westerling, A.L., H.G. Hidalgo, D.R. Cayan, T.W. Swetnam; Western United States forest wildfire activity is widely thought to have increased; SCIENCE, www.sciencemag.org; Vol. 313; p. 940; August 18, 2006.

⁴¹ Breshears, David D., Neil S. Cobb, Paul M. Rich, Kevin P. Price, Craig D. Allen, Randy G. Balice, William H. Romme, Jude H. Kastens, M. Lisa Floyd, Jayne Belnap, Jesse J. Anderson, Orrin B. Myers, and Clifton W. Meyer; Regional vegetation die-off in response to global-change-type drought; pp. 15144–15148 _ PNAS _ October 18, 2005 _ vol. 102 _ no. 42 www.pnas.org/cgi/doi/10.1073/pnas.0505734102 ; Intergovernmental Panel on Climate Change; Climate change 2007: the physical science basis. Summary for Policymakers. Contribution of Working Group 1 to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. IPCC Secretariat, World Meteorological Organization, Geneva, Switzerland.; Iverson, R. and Anantha M. Prasad; Potential Changes in Tree Species Richness and Forest Community Types following Climate Change; Ecosystems (2001) 4: 186-199 DOI: 10.1007/s10021-001-0003-6.; Millar, Constance I. and Wallace B. Woolfenden; The Role of climate Change in Interpreting Historical Variability; Ecological Applications 9(4),

Columbine cabin permit renewal, nor the draft Environmental Impact Statement addresses climate change. Inclusion of the effects of climate change and global warming is a critical element in the evaluation of the environmental baseline, cumulative effects, and foreseeable future condition for any proposed project in the arid Southwest. This omission must be corrected in the Final EIS.

Conclusion

The DEIS acknowledges the fact that renewal of the cabin permits will perpetuate the need for increased fire fighting efforts; however, still favors renewal owing to inaccurate underestimation of the effects of continuing the perpetuation of piecemeal habitat destruction.

Underestimation of the effects is based primarily on fallacious acreage modeling and an inadequate, unprofessional, and legally deficient US Fish and Wildlife Service biological opinion.⁴² Both the DEIS and the Biological Opinion (1) underestimate the effects of permit renewal, (2) fail to include the effects of related and predictable actions, (3) ignore past and continuing fire fighting damage and strategies based on efforts dominated by protection of structure regardless of damage and jeopardy to forest and squirrel, and (4) fail to include an evaluation of the increasing peril to forest and squirrel based on global warming and climate change.”

Both USFWS and the Forest Service ignored our comments. Now that less than 35 Mount Graham Red Squirrels remain on Earth, and now that there is so little potential suitable recoverable habitat surviving, the non-jeopardy conclusion of the August 18, 2008, USFWS Biological Opinion and the Forest Service’s, March 27, 2015 Record of Decision on the summer home permit renewals are not rational.

USFS HAS FAILED TO REINITIATE CONSULTATION WITH USFWS FOR CONTINUED PERMITTING OF THE RECREATIONAL STRUCTURES AS REQUIRED BY LAW

Since this August 18, 2008, Biological Opinion on permitting of the recreational structures, new information now includes the fact that (1) very little high elevation spruce-fir forest survives, (2) Mount Graham Red Squirrels are found only in four areas below the high

1999, pp. 1207-1116; Ecological Society of America.; Millar, Constance I., Nathan L. Stephenson, and Scott L. Stephens; Climate Change And Forests Of The Future: Managing In The Face Of Uncertainty; Ecological Applications, 17(8), 2007, pp. 2145–2151.; Running, Steven W.: Is Global Warming Causing More, Larger Wildfires?; SCIENCE (www.sciencemag.org); Vol. 313; p. 927; August 18, 2006.; Spittlehouse, David L.; Integrating climate change adaptation into forest management; ; The Forestry Chronicle, Vol. 81, No. 5; September/October 2005.; Van Mantgem, Phillip J., Nathan L. Stephenson, John C. Byrne, Lori D. Daniels, Jerry F. Franklin, Peter Z. Fulé, Mark E. Harmon, Andrew J. Larson, Jeremy M. Smith, Alan H. Taylor, and Thomas T. Veblen; Widespread Increase of Tree Mortality Rates in the Western United States; SCIENCE Vol. 323; p. 521; January 23, 2009.; Walker, B., and W. Steffen. 1997. An overview of the implications of global change for natural and managed terrestrial ecosystems. Conservation Ecology [online]1(2): 2. Available from the Internet: URL: <http://www.consecol.org/vol1/iss2/art2/>.; Westerling, A.L., H.G. Hidalgo, D.R. Cayan, T.W. Swetnam; Western United States forest wildfire activity is widely thought to have increased; SCIENCE, www.sciencemag.org; Vol. 313; p. 940; August 18, 2006.

⁴² Biological Opinion AESO/SE 22410-2007-F-0163; Correspondence, from Mr. Steven L. Spangle, Field Supervisor, Arizona Ecological Services Field Office, US Fish and Wildlife Service, Phoenix, Arizona; to Mr. William A. Schuckert, District Ranger, Coronado National Forest Safford Ranger District, Safford, Arizona; RE: Proposed Special Use Area Fuel Reduction project, Graham County, Arizona; July 12, 2006.

elevation spruce-fir including areas occupied by recreational structures, and (3) intact, canopied conifer forest lower than high elevation spruce-fir forest habitat is now more important than ever. Since the August 18, 2008, Biological Opinion on permitting of the recreational summer cabins, this new information reveals effects of the agency action, the permitting of recreational structures occupying Mount Graham Red Squirrel habitat, now affects the Mount Graham Red Squirrel in a manner and to an extent not previously considered.

Incidentally, every recreational summer home Special Use Permit contains a clause that USFS may revoke or terminate the permit "at the discretion of the authorized officer for reasons in the public interest."⁴³

The special use permit for the recreational summer cabins may be terminated "in the Public Interest." Specifically, the recreational summer cabin special use permits say:

"VIII. TERMINATION...

B. Termination in the Public Interest:

(1) This permit may be revoked or terminated during its term at the discretion of the authorized officer for reasons in the public interest. (36 CFR 251.60(b)) [the authorized officer is that person who issues the authorization or that officer's successor.]. In the event of such termination in the public interest, the holder shall be given one hundred and eighty (180) days prior written notice to vacate the premises, provided that the authorized officer may prescribe a date for a shorter period in which to vacate...if the public interest objective reasonably requires the site in a shorter period of time..."

It is obviously not in the public interest to promote and facilitate an extinction by continuing to deprive the Mount Graham Red Squirrel of habitat necessary for its survival and recovery by USFS' maintaining the presence of recreational summer cabins with the ongoing permitting. Similarly, it is arbitrary and capricious for the Forest Service to use their discretion to promote and facilitate an extinction by continuing to deprive the Mount Graham Red Squirrel of habitat necessary for its survival and recovery by maintaining the lease for the recreational structures.

USFS HAS FAILED TO CONSULT WITH USFWS FOR CONTINUING PERMITTING OF THE RECREATIONAL SUMMER CAMP IN THE COLUMBINE AREA

A recreational summer camp is also found in the Ash Creek drainage/Columbine area. The camp is currently operating on a permit that expired in 2008. USFS has never consulted specifically on the permitting of the camp in spite of law requiring consultation.

The recreational summer camp threatens the continued existence of the Mount Graham Red Squirrel for the same reasons documented above for the recreational summer cabins. Most importantly, please review the aerial image on page 16. The recreational summer camp is located to the middle left of the image.

⁴³ USDA Forest Service TERM SPECIAL USE PERMIT For Recreation Residences issued to [REDACTED].

The importance of camp removal has been addressed in the original July 14, 1988, Biological Opinion, and the August 1, 1990, Biological Opinion Update. Both have already been quoted extensively.

The laws regarding consultation are clear:

“16 U.S.C. § 1536 - Interagency cooperation

(a) FEDERAL AGENCY ACTIONS AND CONSULTATIONS.-

(1) The Secretary shall review other programs administered by him and utilize such programs in furtherance of the purposes of this Act. All other Federal agencies shall, in consultation with and with the assistance of the Secretary, utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species listed pursuant to section 4 of this Act.

(2) Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency (hereinafter in this section referred to as an “agency action”) is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with affected States, to be critical, unless such agency has been granted an exemption for such action by the Committee pursuant to subsection (h) of this section. In fulfilling the requirements of this paragraph each agency shall use the best scientific and commercial data available.”

And,

“50 C.F.R. 402.14

Sec. 402.14 Formal consultation.

(a) Requirement for formal consultation. Each Federal agency shall review its actions at the earliest possible time to determine whether any action may affect listed species or critical habitat. If such a determination is made, formal consultation is required...”

USFS has not consulted with USFWS regarding continuation of the Columbine recreational summer camp Special Use Permit in violation of law.

Incidentally, please also note that the Special Use Permit for the camp may be terminated “at the discretion of the regional forester or the Chief, Forest Service.”⁴⁴ Unfortunately, neither the Regional Forester nor the Chief has exercised their discretion to terminate the camp as recommended by the July 14, 1988, USFWS Biological Opinion and the August 1, 1990, USFWS Biological Opinion Update.

⁴⁴ United States Department of Agriculture Forest Service SPECIAL USE PERMIT to Arizona Church of Christ Bible Camp, 651 South Kolb Road, Tucson, Arizona 85710, August 10, 1977.; Amendment No. 1 for Special Use Permit issued to the Arizona Church of Christ Bible Camp, signed, October 26, 1982.; Amendment No. 2 for Special Use Permit, signed, December 2, 1987.; and Amendment No. 3 for Special Use Permit issued to the Arizona Church of Christ Bible Camp, dated, December 2, 1987, signed, October 6, 1993.

It is arbitrary and capricious for the Forest Service to use their discretion to keep the recreational summer camp open, to promote and to facilitate an extinction by continuing to deprive the Mount Graham Red Squirrel of habitat necessary for its survival and recovery.

NOTICING PARTIES

The Center for Biological Diversity, Maricopa Audubon Society, and the Mount Graham Coalition are the noticing parties for this Notice of Intent to Sue. Members and principles of all three organizations have been actively involved with the preservation of Mount Graham and advocacy for the Mount Graham Red Squirrel for more than 30 years.

The Center for Biological Diversity is a national, nonprofit conservation organization with more than 1.6 million members and online activists dedicated to the protection of endangered species and wild places.

Maricopa Audubon Society is a non-profit organization dedicated to the enjoyment of birds and other wildlife with a primary focus on the protection through fellowship, education, and community involvement. Maricopa Audubon is a chapter of the National Audubon Society. Maricopa Audubon has over 2,300 members, primarily in central Arizona. MAS has played a strong role in protecting endangered species in the Southwest through public education efforts, field surveys, public field trips, and position papers.

The Mount Graham Coalition is a non-profit organization dedicated to the environmental and cultural protection of Mount Graham. The Mount Graham Coalition consists of nearly every environmental and Native American cultural protection organizations in the United States.

Dr. Robin Silver is a Co-founder and Board Member of the Center for Biological Diversity. He is also the Vice-President of Maricopa Audubon Society. He is a member of both organizations. He works with Center staff and others to advance the Center's mission of conserving native plants and animals and their natural habitats through education, scientific research, advocacy, and land stewardship. Dr. Silver is a frequently published professional photographer specializing in threatened and endangered species and their habitat. He has photographed, studied and advocated for the protection of Mount Graham and the Mount Graham Red Squirrel for more than 30 years. Most recently Dr. Silver is the primary author of the December 14, 2017, "Petition to revise the January 5, 1990, Mount Graham Red Squirrel Critical Habitat to reflect the current change in status of the squirrel and its habitat."⁴⁵

Each of these parties and members have been and are being harmed by USDA, USFS, and USFWS' actions and failures to comply with the law because these actions and failures are threatening the continued existence of the Mount Graham Red Squirrel and survival of its critical habitat.

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http://www.biologicaldiversity.org/campaigns/sky_islands_conservation/pdfs/PetitionToReviseMountGrahamRedSquirrelCriticalHabitat_12.14.2017.pdf

SUMMARY OF LEGAL VIOLATIONS

On behalf of the Center, Maricopa Audubon Society, and the Mount Graham Coalition, notice is hereby served, pursuant to 16 U.S.C. § 1540(g)(2), that USFS and USFWS are in violation of the ESA for (1) failing to reinitiate formal consultation under section 7 of the ESA, 16 U.S.C. § 1536, and 50 C.F.R. 402.16, regarding the continued issuance of the Special Use Permits for the Columbine recreational summer cabins; and (2) for failing to initiate formal consultation under section 7 of the ESA, 16 U.S.C. § 1536, and 50 C.F.R. 402.14, regarding renewal of the Special Use Permit for and continued operation of the Columbine recreational summer camp.

The recreational summer cabins and camp are both permitted by USDA and USFS. Termination of the Special Use Permits are necessary to reclaim and restore the area to help recover the severely endangered Mount Graham Red Squirrel.

Section 7(a)(2) of the ESA requires “[e]ach federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded or carried out by such agency... is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [critical] habitat.” 16 U.S.C. § 1536(a)(2).

Following formal consultation, the USFWS must issue a “biological opinion as to whether the action, taken together with cumulative effects, is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.” 50 C.F.R. § 402.14(g)(4); 16 U.S.C. § 1536(b).

When a jeopardy a determination is made, the USFWS “shall suggest those reasonable and prudent alternatives which it believes would not violate [section 7(a)(2)] of the ESA” and which can be taken by the Federal agency or applicant in implementing the agency action. 16 U.S.C. § 1536(b)(3)(A); 50 C.F.R. § 402.14(g)(5).

Reinitiation of formal consultation is required and “shall be requested by the Federal agency or by the Service where discretionary Federal involvement . . . has been retained or is authorized by law” and if, among other reasons, “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.” 50 C.F.R. § 402.16.

For the Columbine recreational summer cabins, USDA and USFS initiated formal consultation with USFWS for Special Use Permit renewals on January 17, 2007. The consultation culminated in an August 18, 2008, Biological Opinion.⁴⁶ The August 18, 2008, Biological Opinion failed to undertake study to determine the effects and importance of habitat restoration value with removal of the recreational structures. There has never been a formal consultation regarding the Columbine recreational summer camp Special Use Permit.

The Columbine recreational structures were reviewed in the July 14, 1988, Biological Opinion on the Coronado National Forest Plan and the Mt. Graham Astrophysical Area

⁴⁶ U.S. Department of the Interior Fish and Wildlife Service Arizona Ecological Services Office Biological Opinion on Mount (Mt.) Graham Summerhome Special Use Permit Residence Renewals, AESO/SE 22410-2007-F-0163, August 18, 2008.

Plan.⁴⁷ In the July 14, 1988, Biological Opinion, the rationale and the necessity for removal of the recreational structures:

“Because of the Increased short-term risk resulting from this alternative, it becomes even more imperative that habitat restoration via reforestation be accelerated. Acreages not presently considered for restoration must be included. The summer homes at Columbine and the Arizona Bible Camp are along a forest road that leads into the Ash Creek drainage, an area that has considerable potential for red squirrels. Removal of the Bible Camp and summer homes would enable those acreages (2.5 and 1 4.5 respectively) to be incorporated into forest restoration plans for the area. The summer home area was projected to recover to good to excellent habitat, the Bible Camp to fair.

These two areas are not in the spruce-fir vegetation type considered to be the best available for the red squirrel, but are rather in the mixed conifer. Because this is the habitat type where the Forest Service predicts the greater gains in red squirrel equivalents over time (USDA-FS 1988), any augmentation to this area, especially in the Ash Creek drainage is worthwhile. Removal of the Bible Camp and summer homes and subsequent reforestation represents the best opportunity to regain previously lost habitat outside the refugium...

Permits for the 14 summer homes at Columbine and the Arizona Bible Camp will not be renewed in 1992. These areas and the access road will be actively reforested to manage for red squirrel habitat once the facilities are removed.”

Non-renewal of the permits and closure of the Columbine recreational structures were also reviewed in the August 1, 1990, Biological Opinion Update.⁴⁸

“The Ash Creek drainage [site of the Columbine recreational summer cabins and camp] contains the major block of good habitat for red squirrels outside of the spruce/fir forest. Other blocks of similar habitat have been degraded by logging. The old-growth forest of Douglas-fir and white fir provide the cool, wet conditions required for long-lasting middens. In years of good cone crops of Douglas-fir (and, to a lesser extent, white fir), this habitat type presumably provides conditions for high rates of survival and reproduction. Because it is lower in elevation than the spruce/fir habitat, it is generally warmer. In the Ash Creek drainage, many areas have a northern or eastern exposure, which probably compensates somewhat for the lower elevation...

The Douglas-fir/white fir habitat type in the Ash Creek drainage is in relatively close proximity to and is contiguous with two prime areas of spruce/fir forest: Webb Peak to the west and, to the southeast, Emerald Peak, Hawk Peak, and High Peak. These areas are arrayed roughly linearly, from Webb Peak in the northwest to High Peak in the southeast. Significant roads, firebreaks, and

⁴⁷ United States Department of the Interior Fish and Wildlife Service Biological Opinion on the Coronado National Forest Plan and the Mt. Graham Astrophysical Area Plan and the Mt. Graham red squirrel (*Tamiasciurus hudsonicus grahamensis*), Region 2, FEW/HC 2-21-86-F-75, July 14, 1988.

⁴⁸ Biological Opinion Update Team Findings and Recommendations, Report of the Mt. Graham Red Squirrel Biological Update Team, United States Department of the Interior Fish and Wildlife Service, FWS/DHC/BFA, August 1, 1990.

clearings exist in the spruce/fir forest above 10,200 ft. elevation on Emerald Peak, Hawk Peak, and High Peak, accounting for an estimated 13% loss of this habitat...

Significance:

Regular dispersal between the Ash Creek drainage and the main stand of spruce/fir forest to the southeast focuses attention on the need for good dispersal habitat joining these areas. Emerald Peak lies at this junction...The importance of good dispersal habitat was not realized at the time of preparation of the biological opinion...

In summary, the Team believes that reinitiation of consultation is warranted based on three forms of new biological information:

- The population density in the spruce/fir forest has declined to an extremely low level.
- Dispersal among areas apparently is an important aspect of the ecology of the Mount Graham red squirrel. Substantial fragmentation of the habitat inhibits dispersal and is likely to increase mortality among dispersers...

And now in March 2018, with the additional near total loss of the spruce-fir habitat, any and all recoverable and suitable habitat protection is necessary to prevent Mount Graham Red Squirrel extinction and to provide for any chance of recovery. With respect to the Columbine recreational structures, this "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." 50 C.F.R. § 402.16.

In addition to Section 7(a)(2) of the ESA, section 7(a)(1) independently requires that "all" federal agencies "shall, in consultation with and with the assistance of the [FWS], utilize their authorities in furtherance of the purposes of this chapter by carrying out programs for the conservation of endangered and threatened species." 16 U.S.C. § 1536(a)(1). USDA and USFS have violated, and are continuing to violate, this requirement by failing to carry out a program for conservation—i.e., recovery—of the Red Squirrel on Forest Service lands. Under the current dire circumstances, such a conservation program plainly requires, at minimum, that the special use permits be revoked; that USDA and USFS immediately serve notice on the holders of those permits and the occupants of the affected facilities that their activities will be relocated to more appropriate locations; and that USDA and USFS, in consultation with USFWS, promptly embark on all necessary habitat restoration and rehabilitation activities to ensure that the affected habitat is of maximum value for the Red Squirrel.

Section 4 of the ESA requires USFWS to "develop *and implement*" plans "for the conservation and survival of endangered species and threatened species . . ." 16 U.S.C. § 1533(f)(1) (emphasis added). As explained previously, the Red Squirrel Recovery Plan specifically provides that "[r]estoration of degraded areas" is essential to prevent the extinction and bring about the eventual recovery of the species. Obviously, that need is even more urgent today than it was in 1993, when the recovery plan was issued. Accordingly, especially under the current extraordinary circumstances, implementation of the Plan requires that USFWS work with USDA and USFS to restore all degraded habitat potentially usable by the Red Squirrel, and particularly the areas now occupied by the Columbine recreational structures.

CONCLUSION

The Mount Graham Red Squirrel (*Tamiasciurus hudsonicus grahamensis*) is one of the rarest and most imperiled animals on Earth. Less than 35 remain. Piecemeal loss of its habitat continues to be the greatest threat to the squirrel.

This correspondence requires two legally mandated actions by USFS and USFWS, (1) reinitiation of consultation regarding continued permitting of the recreational summer cabins on Mount Graham, and (2) initiation of formal consultation regarding permit renewal and operation of the Columbine recreational summer camp on Mount Graham.

(1) Reinitiation of Consultation regarding Continued Permitting of the Recreational Summer Cabins

Since the August 18, 2008, Biological Opinion on permitting of the recreational summer cabins on Mount Graham, new information documented in this correspondence reveals that effects of the agency action, the permitting of recreational summer cabins, now affect the Mount Graham Red Squirrel in a manner and to an extent not previously considered.

In 60 days, on July **, 2018, the Center, Maricopa Audubon Society, and the Mount Graham Coalition will seek judicial relief if you have still not reinitiated formal consultation regarding the increasingly deleterious effects of the continued presence of recreational summer cabins denying essential recovery habitat from the severely endangered Mount Graham Red Squirrel.

(2) Initiation of Consultation regarding Permit Renewal of the Columbine recreational summer camp

The Columbine recreational summer camp operates without a valid permit. Prior to re-authorizing this permit USFS is required by law to consult with USFWS regarding the increasing deleterious effects of the continued presence of the camp denying essential recovery habitat from the severely endangered Mount Graham Red Squirrel.

(3) Pursuit of Consultation Under Section 7(a)(1) and Adoption of A Conservation Program In Accordance with that Provision and ESA Section 4(f), As Set Forth Previously.

In 60 days, on July **, 2018, the Center, Maricopa Audubon Society, and the Mount Graham Coalition will seek judicial relief if you have still not initiated formal consultation regarding the increasingly deleterious effects of the continued presence of recreational summer cabins denying essential recovery habitat from the severely endangered Mount Graham Red Squirrel.

CONTACT INFORMATION

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Sincerely,



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