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DEPARTMENT OF AGRICULTURE, Forest Service (USFS); DEPARTMENT OF DEFENSE, Army Corps of Engineers (USACE); DEPARTMENT OF INTERIOR, Bureau of Land Management(BLM), Bureau of Reclamation (BR), National Park Service(NPS), Fish & Wildlife Service (USFWS)

TITLE 36--PARKS, FORESTS, AND PUBLIC PROPERTY

AGENCIES: USFS, Agriculture; USACE, Defense; BLM, Interior; BR, Interior; NPS, Interior; USFWS, Interior;

ACTION: Proposed Rule

SUMMARY (abstract): The Departments of Agriculture, Defense and Interior, and their respective land management agencies, propose this rule to allow foot-launching, landing and over-flight of powerless devices weighing less than 155 pounds designed for human recreational flight on all national parks, forests and other public lands and waters. These powerless flight devices are classified as unpowered flight vehicles under Federal Aviation Administration (FAA) Federal Aviation Regulations part 103 (FAR-103), traditionally and more commonly known as hang gliders and paragliders.

In an effort to provide greater management uniformity and efficiency in the federal land management system, this rule adopts the most practical and successful administrative approaches which have evolved over the last two decades under existing policies or special use rules applicable to recreational powerless foot-launch flight.

Accordingly, this rule applies only to unpowered foot-launch flight devices weighing less than 155 pounds, capable of being carried on foot to and from launch and landing areas, and used as a means for participants to experience flight *by their own unaided efforts*. It supersedes and exempts such powerless flight devices from (i) all existing agency aircraft/air delivery policies or special use rules in which they have been heretofore included and (ii) FAA-Airmen's Information Manual (AIM) 7-75 guidelines on flight operations in the airspace over public lands and waters. The rule neither applies to nor in any way affects existing land management rules for all FAA-classified aircraft or FAR-103-classified vehicles that are auxiliary power-assisted (intermittent-powered), power-assisted, under-tow or fully-powered.

Under the proposed rule, managers for each public land entity will be given the discretion to (a) designate launch and landing areas, including access thereto, for the purpose of recreational foot-launch powerless flight; (b) designate said areas for other compatible purposes or uses; (c) restrict use of said areas for flight purposes to qualified participants who have current minimum proficiency certifications from independent participant groups such as the United States Hang Gliding Association (USHGA) or equivalent organization, generally recognized as being credible in their certification programs for unpowered flight devices weighing less than 155 pounds; (d) designate prohibited airspace consistent with the intent of any other federal guidelines on flight operations in the airspace over public lands and waters; and (e) allow use of said areas for flight purposes pursuant to terms and conditions of a participant agreement issued by the land manager.

DATES: Written comments will be accepted through mm dd, 2001(or 90 days after Federal Register publication).

ADDRESSES: Comments should be addressed to: LTG Robert B. Flowers, Commander and Chief of Engineers, DoD US Army Corps of Engineers, 441 G. Street N.W., Washington, DC 20314; Dr. Mike Dombeck, Chief, USDA US Forest Service, Washington, DC 20090; Director, DoI Bureau of Land Management, 1849 C. Street N.W. ms6628-MIB, Washington, DC 20240; Commissioner, DoI Bureau of Reclamation, 1849 C. Street N.W. ms765A-MIB; Director, DoI US Fish and Wildlife Service, 1849 C. Street N.W. ms3012-MIB, Washington, DC 20240; Director, DoI National Park Service, 1849 C. Street N.W. ms3220-MIB, Washington, DC 20240.

FOR FURTHER INFORMATION CONTACT: United States Hang Gliding Association, 559 Pikes Peak Ave., Suite 101, Colorado Springs CO 80903.

SUPPLEMENTARY INFORMATION:

BACKGROUND INFORMATION:

Introduction: Recreational powerless flight is enjoyed currently through the sports of hang gliding (HG) and paragliding (PG). Though differing in wing technology, both gliding sports share the same ability to give humans a chance to feel the air as the birds do. Equipment typically weighs between 40 and 90 pounds so it can be easily carried on foot like a hiker's backpack. The average glider pilot hikes to a clearing on a ledge, quickly sets up, and steps out into the air. With no motor, the pilot depends on the wind and natural lift along ridges or from rising heated air to remain aloft, just like soaring birds. In fact, glider pilots look to birds for clues about the air's conditions and best places to find lifting air, often spending

quiet hours together aloft enjoying the views and wildlife from a perspective not often allowed mankind. When the flight is through, the pilot and glider settles down on the pilot's own feet, packs up and hikes away. For almost thirty years, hikers-turned-pilots have used these simple devices to increase their enjoyment of the outdoors.

Hang Glider Evolution: Hang gliding is the origin of all manned flight. The earliest recorded unpowered free flight occurred in about the year 1100 by a monk in Wales. Conceptual designs were drawn as early as the 16th centuries by Leonardo da Vinci. In the 19th and 20th centuries, Otto Lillienthal, Octave Chanute and the Wright Brothers developed unpowered hang gliding methods and practiced them with varying degrees of success. Today's highly evolved designs, made from advanced dacron sailcloth and aluminum alloy/carbon composite frame spars, can be more directly traced to NASA's fold-up fabric delta-shape glider re-entry vehicle technology conceived by Francis Rogallo in the 1950's. During the latter part of the 1970's, hang glider designers and manufacturers took advantage of newer materials and computer-aided design technologies to create gliding craft that, even though basic, were far superior to the previous historic efforts.

As more was learned about the aspects of slow speed controlled soaring, designers were able to incorporate safety devices -- such as dive recovery, modern materials and other new discoveries to improve handling and control -- and improve the flight characteristics of the craft. The Hang Glider Manufacturers Association (HGMA) was formed to further develop air worthiness standards that all manufacturers would eventually design to and certify via a formal testing and evaluation program. Today a hang glider is capable of withstanding forces greater than those of commercial aircraft.

Paraglider Evolution: Parachute technology has changed dramatically over the last 30 years. Present-day designers took the technology of ram-air-type chutes, the standard of sport jumping, coupled it with the amassed knowledge of slow speed flight learned from hang gliding, to produce a canopy that permits ultra slow speed, controlled flight. Paragliders are capable of foot launching and landing from relatively shallow slopes. They can take advantage of the same kind of lifting air used by hang gliders, though because of their slower speed are limited to somewhat lighter conditions.

Flight Envelope: Launching from appropriate sites, hang gliders have flown over 300 miles cross country (XC); paragliders over 200 miles. They have the potential of remaining aloft for many hours by soaring on natural updrafts produced from winds deflected by mountain ridges or air warmed by the sun. Ridge soaring, the simplest and primary method for staying aloft, is typically limited to about 1,000 feet or less above the ridge. Thermal soaring, which involves circling inside rising warm air called thermals, can sometimes reach several thousand feet above the ground. Depending on the wing technology, airspeeds are limited to between 15 and 25 mph for best performance. These airspeeds also define the approximate upper limits of wind velocities for safe flight operation.

Self-regulation and Risk Management: The FAA recognizes these forms of aviation are purely for recreation or sport. They are thus allowed under the conditions set forth in FAR-103 which emphasize that a participant must not risk the safety and property of anyone or anything else other than that of the participant alone. For example, flight operations over population centers are not allowed. This FAR essentially serves notice that a participant assumes all liability for any harm or loss to others, and all risk to his or her own personal safety and property while pursuing this activity. Because of these limitations on liability and risk, participants are allowed to self-regulate and encouraged as a group to adopt good operating practices and programs so as to avoid more extensive FARs.

The USHGA is the largest member-controlled national sport organization dedicated to unpowered soaring flight and the underlying principles behind FAR-103 self-regulation. Since 1974 its mission has been to promote pilot safety through its formal instructor-certification programs and pilot-rating systems, and to coordinate liability indemnities for members and member-designated flying sites with third-party providers. It has taken a proactive and systematic approach to reducing and managing participant risks in ways that are consistent with public interests, public safety, environmental impact, taxpayer burden and the law. The USHGA also advances and distributes information on flight methods, equipment and safety through its two periodicals, several educational/electronic forums, sporting event sponsorships, and affiliations with other credible national/international sport aviation groups including manufacturer consortiums that develop glider test standards. Finally, the USHGA also provides members and regional-affiliate chapters with formal support services aimed at acquiring and preserving safe local flying sites, defining minimum site-specific pilot ratings and skills, assessing accidents and injuries, promoting good-safety practices, and appointing local maintainers for site-management and landowner communications. There are currently about 10,000 USHGA members in 140 chapters located within 12 U.S. and 1

international regions; membership is open to anyone interested in this realm of unpowered flight. There are also about 250 USHGA-certified training centers nationwide.

The HGMA is a certification consortium of domestic and foreign manufacturers of glider equipment sold in the U.S.. Like the USHGA, the HGMA is dedicated to the principles of self-regulation. Since 1977 its mission has been to promote glider safety through development of standardized tests to certify gliders, glider materials and related equipment as meeting certain minimum airworthiness criteria. The HGMA also helps manufacturers define safe operating limits such as allowable pilot weight ranges and recommended minimum pilot ratings/skills for each HGMA-certified production model.

Other sport aviation groups are also helping to shape and further refine the future of self-regulation in the U.S.. The National Aeronautic Association (NAA), official representative to the world-governing body for sport aviation Fédération Aéronautique Internationale (FAI), is affiliated with the USHGA. NAA has designated USHGA as the supervisor for all world hang gliding and paragliding matters that come under FAI's Commission Internationale de Vol Libre (CIVL). The Soaring Society of America (SSA), the largest independent group representing FAA-regulated sailplane activities, and the USHGA are developing shared-resource plans aimed at enhancing and streamlining their respective administrative functions. The Deutscher Hängegleiter Verband (DHV), the Schweizerische Hängegleiter Verband (SHV), the Association Française de Normalisation (AFNOR) and the British Hang & Paragliding Association (BHPA) are also joining with HGMA to develop international test standards under FAI-CIVL. At the moment, DHV, SHV, AFNOR, BHPA and HGMA are the principal certifying organizations for most of the world's equipment manufacturers.

ENVIRONMENTAL IMPACTS AND SAFETY ISSUES: Existing public land use rules for aircraft (e.g. 36CFR 2.17) make no distinctions between a jet airplane, a motorized aircraft, and an unpowered hang glider when considering potentials for adverse impacts and hazards. All are equally prohibited to launch from, fly less than 2,000 feet above, or land on many public lands and waters, including sensitive areas except under very restrictive and cumbersome special use conditions that are sometimes open to a wide array of interpretations. These special use rules, mainly designed to discourage uses thought to be inappropriate, unintended or high-impact, have been found to inadequately or incorrectly recognize the huge differences in flight envelopes, physical sizes and user philosophies in assessing potential impacts of powered aircraft vs. hang gliders.

All powered aircraft create noise, exhaust pollution and potentially-destructive wake turbulence. These intrusive qualities can clearly disturb plant and animal habitat, disrupt the meditative enjoyment and tranquility of pristine areas, and interfere with recreational opportunities that public lands are traditionally intended to provide. Furthermore, use of powered aircraft is virtually free of any constraints imposed by weather and terrain. In stark contrast, noiseless and low-speed hang gliders and paragliders are inherently compatible with, dependent on, and limited by the natural environment. Species thought to be most affected by HG and PG, such as hawks and eagles, frequently soar the same thermals, repeatedly nest near established glider sites and generally are unstressed by the presence of gliders. And since gliders are intended to be carried on foot, their physical dimensions are also only a fraction of those for powered aircraft. Thus a typical glider user would not impact the terrain as much as a horseback rider, mountain biker or even a typical backpacker. And certainly nowhere near the impacts of an operator of an off-road motorcycle, snowmobile, ATV or any other type of motorized recreational vehicle.

Existing rules that specifically address HG and PG, such as 36CFR-2.17(a)(1), were based mainly on two outdated assumptions about the true nature of these activities. First was a subjective public opinion that they would somehow be an inappropriate use of public lands in some unspecified ways. Second was an unsupported suggestion that they would lead to overuse and conflicts due to unlimited flights. These views probably reflect a lingering misperception that HG and PG are inherently high-risk activities like bungee-jumping that can overwhelm and compromise the safety of public land resources with uncontrolled crowds of thrill-seeking daredevils and noisy spectators. But these views are completely unfounded as evidenced from the facts on participant attitudes, accident and insurance statistics, local weather statistics, actual site-use patterns, and topographic requirements.

HG and PG are not spectator activities. Unpowered foot-launched gliders are silent, small and inconspicuous at soaring altitudes. Their use is sporadic due to extraordinary weather dependencies. And sites are usually remote, accessible only on foot, and part of a natural topography that blends in with its surroundings. Like hiking and canoeing, HG and PG are intensely personal ways for participants to experience and enjoy the natural environment through their own unaided efforts, albeit from a different three-dimensional perspective. And the HG and PG community generally shares the same leave-no-trace

ethics with other outdoor enthusiasts engaged in kindred low impact recreational pursuits. Participants generally hike their equipment one-way along existing trails to a natural vista or overlook and quickly launch. Since landings usually aren't made on the vista itself, nothing there is left behind. Generally, non-participants or potential spectators in the vicinity of vistas are not even aware of their use for HG and PG activities.

HG and PG are not inherently dangerous activities. As a result of the voluntary self-regulation programs cooperatively developed by the independent groups mentioned above, fatality rates have for many years been comparable to or better than those of traditional outdoor activities such as swimming, boating, mountain-biking, and rock-climbing. Where they have been allowed, they have also had far less reliance on search and rescue resources than any other activity. Furthermore, total liability insurance payouts for damages or injuries sustained by non-participants as a result of HG and PG activities have only been ~\$110,000 over a period of nearly 30 years in this country. There has never been a non-participant fatality due to any HG or PG activity. These facts suggest that many unregulated activities that are traditionally allowed on federal lands run a much higher risk for accidents or fatalities than self-regulated organizations with aggressive risk management programs.

Statistical weather correlations with site-use have consistently shown that there are only about 2 to 5 soarable days per month depending on how closely a particular site faces the local prevailing wind. Programs based on Microsoft Excel and Access are available to land managers to estimate soaring days per month for a specific location by parsing local daily weather historical data from National Oceanographic and Atmospheric Administration (NOAA) <<http://www.nndc.noaa.gov/cgi-bin/nndc/gensub.cgi>>. However, as a general rule of thumb, a site directly facing the local prevailing wind averages ~5 soarable days per month while an opposite-facing site in the same locale averages only ~2. And because there are only ~15,000 active participants scattered throughout the entire country (two-thirds being USHGA members), a site typically attracts between about 3 to 10 participants on soarable days occurring on week-days and weekend-days respectively; overall, site averages ~5 participants on soaring days. For example, a popular south-southeast-facing site on a small section of the Appalachian Trail with local prevailing west-southwest winds, has in recent years averaged about 3.25 soaring days per month and 5.1 participants. These usage numbers pale in comparison to those of many so-called traditional activities practiced on federal lands.

Suitable site terrain is also quite limiting due to the exacting requirements for launch vistas (LVs) and landing zones (LZs). The LV must be a naturally-occurring overlook or outcropping that is vertically elevated by about 500 feet or more above surrounding ground levels. The LZ must be a meadow or field that is horizontally separated upwind from the vista by less than 5 times the LV's elevation. Though both must be relatively unobstructed and ideally covered with low natural vegetation, their area requirements are modest. The LV should be a relatively steep 0.5-acre parcel that fans out from top to bottom. The LZ should be a relatively flat 1 to 5 acre parcel that is preferably elongated into the wind. Attesting to the rarity of finding such sites, the entire Kittatinny and Blue Mountain ridge in the northeast United States can support only about one potential site every 10 to 20 miles.

HG & PG ON PUBLIC LANDS: The six main federal land management agencies were surveyed for their HG and PG policies and experience; Agriculture's USFS, Defense's USACE and Interior's BLM, BR, NPS and USFWS. The National Archives and Records Association (NARA) and the Department of Transportation's Federal Aviation Administration (FAA) were also consulted for supplemental information. Three types of surveys were conducted: direct interviews with agency officials, informal polls of the HG and PG communities, and internet keyword (e.g.: agency name + hang gliding) searches. The results were compared considering the key elements of each agency's official mission toward recreational use.

USFS, BLM, BR, USACE: A common element in each of these agency's missions is a commitment to multiple-use or multiple-purpose management concepts as governed by several legislative acts such as the 1976 NATIONAL FOREST MANAGEMENT ACT and 1976 FEDERAL LAND POLICY AND MANAGEMENT ACT. A top mission priority under these concepts is an emphasis on developing local level cooperative relationships in order to provide for a wide variety of environmentally-friendly recreation opportunities, among which unpowered HG and PG are often cited. Thus, as a matter of national policy, these four agencies generally allow recreational HG and PG everywhere except where specially prohibited and manage them much like hiking at the local level. The agencies typically require no special use regulations or permits for individual participants. However, activities involving large groups or commercial operations may be subject to written agreements but again at the discretion of local land managers.

The USFS probably supports most of the well-known HG and PG sites on federal lands although it does not keep an official central site inventory. Its Sandia NM ranger district is host to a 'world-class' site that many consider as a model example of the type cooperation that has traditionally existed between the local HG and PG community and local land managers in many other areas of the country. Dozens of other USFS sites can be found from simple internet keyword searches and USHGA-related websites. The BLM closely follows USFS with nearly 30 listings in its formal site inventory known as the Recreation Management Information System (RMIS). Though they do not maintain a central inventory, BR and to a lesser extent USACE may indirectly support a comparable number of HG and PG sites through their recreation management partnerships with state and other agencies with adjacent properties.

NPS: Relative to the preceding four agencies, the NPS land management role is more often like that of a curator or conservator depending on a particular park's purpose or natural features. Its mission therefore reflects a single-use management style that is limited to providing for 'public enjoyment' opportunities that specifically do not compromise a park's intrinsic features such as its scenery, natural objects, cultural or historic aspects, or wildlife. It carries out this mission in accordance with the 1978 NATIONAL PARKS AND RECREATION ACT and the 1988 NATIONAL PARK SERVICE MANAGEMENT POLICIES. These enjoyment or appreciation opportunities include both passive (e.g. sightseeing, wildlife observation) and active (e.g. hiking, canoeing) recreational activities that are perceived to have inherently low-impact potential. Thus the NPS also tries to offer a wide variety of environmentally-friendly recreation opportunities but, unlike the other agencies, not necessarily at every park since each is unique as to the kinds or variety of low impact recreational uses that can be reasonably or safely accommodated. The NPS generally prohibits uses which are believed to be high-impact, unintended, inappropriate, or controversial such as motorized recreation, large group functions, spectator activities and commercial operations except on a park-by-park basis pursuant to special regulations.

Unlike the other agencies above, the NPS generally maintains that HG and PG are inappropriate or controversial uses of federal parks as a matter of national policy. It therefore prohibits recreational HG and PG everywhere except where specially allowed under 36CFR-2.17(a)(1). This statute requires the adoption of a 'full public notice and comment' rulemaking (SUR) for *each* park before customary special use permits (individual or group) can even be considered anywhere in the park. While the original intent here may have been to exercise 'reasonable' control, it was based on erroneous perceptions that HG and PG have innate potential for overwhelming park resources and interfering with other uses. Unquestionably, the NPS's cumbersome national SUR policy was designed to discourage HG and PG. Thus it does not inherently seek to promote potentially useful cooperative relationships or partnerships at the local level. This has led to undesirable consequences and inconsistencies for both the HG and PG communities and NPS.

First, only 11 out of an estimated 150 suitably-terrained recreation areas and parks have special HG and PG regulations in place. And some of these no longer have any active sites mainly due to the inconsistent and sometimes capricious manner in which permits are issued at the local level. This unfortunate situation is mainly due to the prohibitive effort and taxpayer expense needed to process an SUR and subsequent permits for each park, sometimes taking years. But in every case where the SUR and SUP hurdles had been overcome, mutually beneficial cooperative relationships have flourished between the local park management and HG and PG communities. (*-if space permits, use examples & testimonials as needed*-*)

Second, there have been a few cases where a park manager overlooked or disregarded the SUR requirement and allowed HG and PG activities in much the same way and spirit as the BLM or USFS. While the expected cooperative partnerships between the local manager and HG and PG communities were realized in every case, a few of these mutually beneficial local relationships were strained when subsequent managers arbitrarily decided to enforce the provisions of 36CFR-2.17(a)(1) and withdrew permission. For example, a local HG and PG club had been using and helping to successfully manage a park area for over 15 years. But a new local park manager decided to ban the club's use of park lands without the SUR as specified by 36CFR-2.17(a)(1). The club spent nearly 2 years, drawing on nearly all its resources and local goodwill with other park users and adjacent landowners, to satisfy the SUR requirement and resume its normal activities.

USFWS: Like the NPS, the USFWS role is often as a curator or conservator with a single-use management philosophy that is limited to environmentally-friendly public enjoyment opportunities. However, these are further restricted to six wildlife-dependent uses as per the 1997 NATIONAL WILDLIFE REFUGE SYSTEM IMPROVEMENT ACT: hunting & fishing, wildlife observation & photography, and environmental education & interpretation. As such, there are no known instances of

allowing HG and PG in any of an estimated 50 suitably-terrained wildlife refuges. Furthermore, since the USFWS is also responsible for enforcing the ENDANGERED SPECIES ACT and compliance with the NATIONAL ENVIRONMENTAL POLICY ACT, it is sometimes consulted as an expert on possible ecological and environmental impacts by other agencies. In the absence of anecdotal or scientific evidence, the USFWS often advises against any new use based on quantitatively-indefinite potentials for adverse impacts or until further field studies can be conducted. (*-* If appropriate, examples of this type of first-order response can be included *-*)).

HG & PG in other countries: (*-* If appropriate and space permits, most other countries can be shown to have a much more positive and pro-active approach than the U.S. in promoting recreational hang gliding and paragliding on public and private properties.*-*)

Public Participation: Whenever practicable, the policies of the agencies involved afford the public an opportunity to participate in the rulemaking process. Accordingly, interested persons may submit written comments regarding this proposed regulation to the address noted at the beginning of this rulemaking. The agencies will review comments and consider making changes to the rule based upon an analysis of the comments. Drafting Information: The primary authors of this proposed rulemaking are---

Paperwork Reduction Act: This proposed rule does not contain collection of information requiring approval by the Office of Management and Budget under 44 U.S.C. 3501 *et. seq.*

Compliance With Other Laws: This rule was not subject to Office of Management and Budget review under Executive Order 12866. The agencies have determined that this document will not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). The economic effects of this rulemaking are local in nature and negligible in scope. The agencies have determined that this proposed rulemaking will not have a significant effect on the quality of the human environment, health and safety because it is not expected to: (a) Increase public use to the extent of compromising the nature and character of any area or causing physical damage to them; (b) Introduce incompatible uses which compromise the nature and character of these areas or causing physical damage to them; (c) Conflict with adjacent ownerships or land uses; or (d) Cause a nuisance to adjacent owners or occupants. Based on this determination, this proposed regulation is categorically excluded from the procedural requirements of the National Environmental Policy Act (NEPA) by Departmental guidelines in 516 DM 6 (49 FR 21438). As such, neither an Environmental Assessment (EA) nor an Environmental Impact Statement (EIS) has been prepared.

List of applicable subjects in the Code of Federal Regulations: In consideration of the foregoing, it is proposed to specifically amend 36 CFR General Regulations for Areas Administered by the National Park Service as follows: PART 2--RESOURCE PROTECTION, PUBLIC USE AND RECREATION, SECTION 2.17 AIRCRAFT AND AIR DELIVERY is amended by revising paragraph (2.17(a)(1) to read as follows: Section 2.17(a)(1) of this regulation prohibits "Operating or using aircraft on lands or waters other than at locations designated pursuant to special regulations. However, unpowered foot-launch flight devices weighing less than 155 pounds, capable of being carried on foot to and from launch and landing areas, and used as a means for participants to experience recreational flight *by their own unaided efforts* are categorically exempt from these special regulations and allowed at designated take-off or landing areas, or by permit". Dated with Agencies signatures

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