Hot Air: Undue Judicial Deference to Federal Aviation Administration Expertise in Assessing the Environmental Impacts of Aviation

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WHEN THE FEDERAL Aviation Administration (FAA) decides to expand an existing airport, or construct a new one, environmental considerations are often ignored or under-valued. Hundreds of acres of wetlands have been filled, endangered species have lost their habitat, national parks have been blasted with jet noise, and the air and water have been polluted because of airport projects. The airplane has caused a negative impact on the environment since its invention, when the Wright brothers’ first attempts at flight had the potential to disturb the ecology of the dunes near Kitty Hawk, North Carolina. In the one hundred years since that flight, aviation has caused a significant amount of damage to the environment.

The FAA regulates, and therefore should be responsible for, the noise pollution caused by aircraft, the chemicals used for de-icing aircraft that flow into streams and lakes, the emissions from aviation fuel exhaust, the reduction of habitat caused by creating and expanding runways, and the potential for transferring insect or plant pests as unwanted stowaways to sensitive habitats. The courts’ deference to the FAA’s decisions approving these actions has limited the FAA’s liability for environmental damage. Other aviation professionals, including pilots, airport operators, and aircraft manufacturers, need to take action to

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protect the environment, particularly in situations where the FAA has refused to act.

The FAA has been granted broad powers to regulate aircraft and airports. Although Congress has enacted numerous statutes to protect the environment and preserve our natural resources, federal courts accord the FAA excessive and inappropriate deference, which undermines these statutes. Deference by the courts to FAA decisions relating to aviation safety is well founded because FAA employees are acknowledged as experts on such areas. Such deference is inappropriate when the FAA decides that proposed action will have no adverse effect on the environment because the FAA has no expertise in environmental concerns. The FAA has also made determinations on such matters as the destruction of ecosystem biodiversity by infiltration of non-native species, the impact of aircraft noise on a Native American reservation, and the impact of jet engine emissions on human health. In some cases, the FAA consults environmental agencies, such as the United States Environmental Protection Agency ("EPA") and the U.S. Fish and Wildlife Service ("FWS"). Courts should question these determinations and deem them arbitrary and capricious if made without appropriate expert environmental advice. Additionally, the EPA and FWS, and other agencies that have such expertise, should have more authority in aviation decisions that affect the environment.

This article will discuss each of the relevant federal environmental laws and explain how these laws have provided inadequate protection for the environment when courts defer to FAA decisions to construct or expand airports. Each impact on the environment, including noise, habitat loss, water pollution, and air pollution, will be analyzed separately. Finally, strategies for improving the current environmental management of the aviation industry will be suggested. One of the authors is both a private pilot and an author of a case book on aviation law and is not in favor of curtailing the joys of general aviation or the convenience of commercial flight. However, our aviation industry

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2 Nat'l Parks & Conservation Ass'n v. United States Dep't of Transp., 222 F.3d 677, 679 (9th Cir. 2000).
3 Town of Cave Creek v. FAA, 325 F.3d 320, 323 (D.C. Cir. 2003).
must be managed in a more environmentally responsible manner, and preservation of our natural resources must take priority over matters of mere convenience.

I. APPLICABLE FEDERAL ENVIRONMENTAL STATUTES.

The FAA must determine whether runway expansion or construction projects will significantly affect the environment, as defined by the National Environmental Policy Act (NEPA), before the FAA approves such a project. Surface water runoff from runways, contaminated with de-icing chemicals and fuel exhaust, may violate the Clean Water Act (CWA). The Endangered Species Act (ESA) may apply if expansion or relocation of runways will destroy habitats. Aircraft emissions impact air quality and must comply with the Clean Air Act (CAA). Airports that are located near public parks or historic areas may violate the Department of Transportation Act because of noise pollution or other environmental impact. Each of these statutes will be considered below.

A. NATIONAL ENVIRONMENTAL POLICY ACT

When enacted in 1969, NEPA was intended to be "the most important and far-reaching conservation and environmental measure ever acted upon by the Congress. . . [It] is a congressional declaration that we do not intend. . . to initiate actions which endanger the continued existence or the health of mankind." Since its enactment, NEPA has proven to be little more than a procedural hurdle with no impact on the substantive outcome of proposed federal projects.

NEPA requires federal agencies proposing major actions significantly affecting the human environment to prepare an Environmental Impact Statement ("EIS"). Agencies will usually first prepare an Environmental Assessment ("EA") to determine whether an EIS is required or whether a Finding of No Signifi-

13 42 U.S.C. § 4332(2)(C); see also Hanly v. Mitchell, 460 F.2d 640 (2d Cir. 1972).
cant Impact ("FONSI") is appropriate.\textsuperscript{14} NEPA requires the preparation of an EIS when the facts alleged, if true, "show that the proposed project would materially degrade any aspect of environmental quality."\textsuperscript{15} The EIS must include a discussion of the environmental impact of the proposed action and any reasonable alternative actions.\textsuperscript{16} The EIS must consider all foreseeable direct and indirect effects, and the consideration given must amount to a "hard look" at the environmental effects.\textsuperscript{17} NEPA has not been applied as a substantive statute, and so long as the environmental damage is identified and evaluated, the agency is not prohibited from deciding that its goals outweigh the environmental costs.\textsuperscript{18} NEPA "prohibits uninformed, rather than unwise, agency action."\textsuperscript{19} While the EIS must consider alternatives to the proposed action, it need not consider all of the alternatives, only those that are reasonable in light of the stated purpose of the project.\textsuperscript{20}

NEPA does not provide adequate protection for the environment when airport projects are involved. The FAA has been successful in convincing courts that airline safety, convenience, and the prevention of commercial flight delays are more important than the resulting damage to the environment. Courts have accorded such a high degree of deference to the FAA's determinations that they have thwarted the environmental laws.\textsuperscript{21} Whether the goal of airport expansion was to prevent delays in commercial flights\textsuperscript{22} or to provide training opportunities for

\textsuperscript{14} 40 C.F.R. § 1501.4(a)(C) (2004).
\textsuperscript{15} City of Davis v. Coleman, 521 F.2d 661, 673 (9th Cir. 1975) (citations omitted).
\textsuperscript{17} See Cmtys. Against Runway Expansion, Inc. v. FAA, 355 F.3d 678, 685 (D.C. Cir. 2004) (citations omitted).
\textsuperscript{18} See, e.g., Custer County Action Ass'n v. Garvey, 256 F.3d 1024, 1035-36 (10th Cir. 2001).
\textsuperscript{19} Id. at 1034.
\textsuperscript{20} See, e.g., Alliance for Legal Action v. FAA, No. 02-1062, 2003 WL 2156006, at *3.
\textsuperscript{21} Petitioners are often denied a voice in court to review FAA orders, as when the Second Circuit determined that it lacked jurisdiction to review FAA approval of an airport layout plan in Comm. to Stop Airport Expansion v. FAA, 320 F.3d 285, 286-87 (2d Cir. 2003). The court found that its jurisdiction was limited to the review of orders with respect to aviation safety duties and that the approval of an airport layout plan fell under a separate part of the statute that did not specifically grant jurisdiction to the Court of Appeals, leaving jurisdiction exclusively to the district court. Id. at 287.
\textsuperscript{22} See Cmtys. Against Runway Expansion, 355 F.3d at 682.
military pilots, courts have supported FAA decisions despite significant environmental impact. For example, courts have upheld FAA orders that (1) threatened significant disturbance of livestock or migratory birds, (2) allowed hundreds of acres of wetlands to be filled in, (3) created a noise level that was expected to cause some people to be "highly annoyed," and (4) increased the noise level at historic national parks. NEPA would have more of a substantive impact if courts gave less deference to the FAA decisions.

Although the Administrative Procedure Act ("APA") provides for judicial review of agency action, courts have limited their review of the FAA's FONSI decisions to whether the FAA "reasonably concluded that the project will have no significant adverse environmental consequences." The party challenging the FAA action must prove that the FAA decision was "arbitrary and capricious." This deference is not appropriate because FAA personnel are not experts in environmental protection or preservation. The FAA should be required to obtain the input and approval of the EPA, the U.S. Fish and Wildlife Service, or other appropriate federal or state environmental experts in making these decisions. Precedent and good reason exist for this type of coordination among agencies. For example, the FAA and the EPA are required to consult about determinations relating to emissions limitations for aircraft engines. This coordination among federal agencies should be expanded.

23 See Lee v. United States Air Force, 354 F.3d 1229, 1234 (10th Cir. 2004).
24 Id. at 1244; see also Welch v. United States Air Force, 249 F. Supp. 2d 797, 802 (N.D. Tex. 2003). Welch held the FAA's order sufficient to satisfy the NEPA requirements. However, in a consolidated appeal of three separate challenges to the FAA in this matter, the Fifth Circuit abrogated portions of the Welch decision. Davis Mountains Trans-Pecos Heritage Ass'n v. FAA, No. 02-60288, 03-10506, 03-10528, 2004 WL 2295986 (5th Cir. Oct. 12, 2004). For example, the Fifth Circuit refused to overturn the lower court's determination that the EIS adequately considered the impact to livestock and birds, but held the EIS inadequately addressed the economic impact of low-level Air Force flights on the community. The court required the FAA to further study and address this impact in a supplemental EIS.
26 See Welch, 249 F. Supp. 2d at 840; see supra text accompanying note 19.
27 See Save Our Heritage, Inc. v. FAA, 269 F.3d 49, 153 (1st Cir. 2001).
30 See Welch, 249 F. Supp. 2d at 810; see supra text accompanying note 19.
31 14 C.F.R. § 34.3 (2004).
The Fifth Circuit has set forth three criteria to determine whether an EIS is adequate:

(1) whether the agency in good faith objectively has taken a hard look at the environmental consequences of a proposed action and alternatives;

(2) whether the EIS provides detail sufficient to allow those who did not participate in its preparation to understand and consider the pertinent environmental influences involved; and

(3) whether the EIS explanation of alternatives is sufficient to permit a reasoned choice among different causes of action.\(^{32}\)

Even within the framework of this deferential standard for review of FAA decisions, courts should conclude that the FAA did not take a hard look at the environmental consequences whenever the appropriate environmental experts were not involved. Furthermore, Congress should amend NEPA to require that environmental considerations take priority over concerns of mere convenience or economy.

President George W. Bush has sought to undermine even the limited impact of NEPA by an executive order.\(^{33}\) The order acknowledged the importance of transportation infrastructure projects and created an Interagency Task Force within the Department of Transportation to assist agencies in expediting environmental review and streamlining the process of issuing permits.\(^{34}\) The order undermines the NEPA requirement that agencies take a "hard look" at environmental impacts. It is also particularly damaging to the effectiveness of NEPA because the Supreme Court has held that if a statutory deadline for a project is too short for an agency to prepare an EIS, then no EIS is required.\(^{35}\) The impact of this executive order has yet to be realized, but the order, in effect, gives the FAA the opportunity to ignore important environmental ramifications for the sake of mere convenience. The administration and the courts should give more of a priority to the prevention of irreversible environmental harm.

B. CLEAN WATER ACT

The CWA prohibits un-permitted discharges of pollutants from point sources into the navigable waters of the United

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\(^{32}\) Miss. River Basin Alliance v. Westphal, 230 F.3d 170, 174 (5th Cir. 2000).


\(^{34}\) Id. at *59,449.

A National Pollution Discharge Elimination System ("NPDES") permit, which imposes effluent limitations on discharges, is required for the release of any of these pollutants. A controversy exists over whether pesticides, which are properly administered and approved by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) are deemed pollutants under the CWA, thereby triggering the requirement of an NPDES permit. Individual states have enacted a variety of statutes concerning pesticide drift and overspray caused by crop dusting, but there is no federal regulation or uniformity among state laws. Pesticides should be deemed to be pollutants under the CWA, and cropdusters should be required to obtain an NPDES permit. Aerial application of pesticides should result in liability for damage to adjoining property; however, reliance on private lawsuits to control environmental harm is not sufficient. These issues are discussed in Section II (A) below. Regulations should provide for fines and penalties as a consequence of environmental damage.

Another potential source of water pollution is de-icing fluids which spill off the runways and enter the waterways, as discussed in Section II (D) below. Pilots are prohibited from flying aircraft with ice on the aircraft surfaces, because the ice can impair the aerodynamics of the plane. Airports are required to have an approved de-icing/anti-icing program, but nothing in the regulations requires recapture, recovery, or treatment of these chemicals, or dictates the type of chemicals used. Non-chemical alternatives, such as heat or compressed air blowers to remove ice and snow from aircraft surfaces and runways should be explored as less harmful alternatives.

C. ENDANGERED SPECIES ACT

Congress pledged through the Endangered Species Act (ESA) to “conserve to the extent practicable the various species of fish

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37 Id.
42 See id.
or wildlife and plants facing extinction."43 Under the ESA, areas are defined as critical habitats, either when occupied by an endangered or threatened species, or when designated as important for the recovery of a threatened species.44 The Secretary of the Interior has authority to designate critical habitats and to limit the activities that may occur within such areas.45 Permits may be issued under the act for actions that will result in the "taking" (killing) of a member of an endangered or threatened species.46 Courts have been less than diligent in their protection of habitats located in proposed runway sites or near airports where noise may harm endangered species, as discussed in section II (B) below.

D. Clean Air Act

The purpose of the CAA is to "protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population."47 The CAA has not been a factor in decisions on runway locations, but it should be. The FAA contends that there is "no known cause and effect relationship between airplane emissions and human health."48 The Fourth Circuit has found it reasonable for the FAA not to study these effects further, and to omit such effects from an EIS when the EPA signs off on projected omission levels.49 Studies indicate that aircraft emissions, both during takeoff and while flying at altitude, adversely affect the ozone layer of the atmosphere and air quality on the surface.50 It is not logical that jet aircraft emissions do not adversely affect human health, when the adverse effects of automobile emissions are acknowledged.51 The Fourth Circuit's position is also con-

44 50 C.F.R. § 424.02(d).
45 Id. § 424.10.
49 Id.
51 See, e.g., Gov't of British Columbia, Protecting the Air We Breathe: A British Columbia Action Plan for Cleaner Air (Dec. 1995), at http://wlapwww.gov.bc.ca/air/vehicle/ptawbabc.html; see also Lovelace Respiratory Institute, New Discoveries
trary to the findings of the EPA. In 2003, the EPA reported that aircraft in the United States accounted for about one percent of the nitrous oxide from mobile sources in our atmosphere.\textsuperscript{52} Oxides of nitrogen contribute to ozone formation, which can irritate human respiratory systems, reduce lung function, lead to increased asthma attacks, reduce crop yields and curtail productivity in forest ecosystems.\textsuperscript{53} The FAA and the courts reviewing the FAA approval of these projects rarely consider the environmental impact of more planes using the runways after airport expansion projects are completed.

Aircraft engine emissions are regulated by the FAA and the EPA.\textsuperscript{54} Either the FAA or the EPA administrator must approve testing and sampling methods for aircraft engine emissions and the administrators of the two agencies are required to consult with each other.\textsuperscript{55} Regulations limit emissions of carbon monoxide, oxides of nitrogen, and hydrocarbon from aircraft engines.\textsuperscript{56} These issues are discussed in Section II (E) below.

\section*{E. \textsc{Department of Transportation Act, Section 4(f)}}

Section 4(f) of the Department of Transportation Act of 1996 prohibits the use of public parks, wildlife refuges, or historically significant property for transportation projects unless there is no "prudent and feasible alternative" and "the program or project includes all possible planning to minimize harm to the park."\textsuperscript{57} The threshold determination is whether the transportation project will "use" the park. In situations where new roads are proposed in or near parks, courts have found the use to be prohibited by Section 4(f).\textsuperscript{58} Conversely, when faced with a proposal to construct or expand an airport, courts have not found a

\begin{itemize}
\item Control of Air Pollution from Aircraft and Aircraft Engines; Emission Standards and Test Procedures, 68 Fed. Reg. 56,226 (proposed Sept. 30, 2003) (to be codified at 40 C.F.R. pt 87).
\item Id. at *56,233.
\item 14 C.F.R. § 34.3 (2004).
\item Id. § 34.3(a).
\item Id. § 34.21.
\item Matthew J. Christian, Proliferation and Expansion of America’s Airports at the Expense of its Treasured Parks and Preserves: Judicial Perversion of the Term “Use” in Section 4(f) of the Department of Transportation Act, 3 Nev. L.J. 613, 615 (2003).
\end{itemize}
use" sufficient to trigger Section 4(f). In one case where a park had already been impacted by an airport, the court found the incremental impact of additional flights or an expanded runway was not significant enough to reject the FAA's plans. The FAA has determined, and courts have agreed, that the appropriate standard is the incremental impact of the project, even though cases involving other statutes regulating airport noise have rejected this approach. This is another way in which courts have given excessive deference to the FAA at the expense of the environment. These issues are discussed in Section II (F) below.

II. AVIATION ACTIVITIES THAT ADVERSELY AFFECT THE ENVIRONMENT

Aircraft and airports have raised issues involving each of the above-mentioned federal statutes. Cropdusting, airport expansion, new airport construction, and low-flying aircraft can negatively impact the environment with noise, emissions, polluted water runoff, and habitat destruction. Each of these impacts will be discussed below.

A. AERIAL SPRAYING OF PESTICIDES

Liability for spraying pesticides by airplane falls across a wide spectrum. Some courts deem it an extra-hazardous activity, imposing strict liability on the landowner who initiates the spraying. Other courts refuse to apply strict liability, requiring a  

59 Id.; See also, e.g., Save Our Heritage, Inc. v. FAA, 269 F.3d 49, 58 (1st Cir. 2001); Morongo Band of Mission Indians v. FAA, 161 F.3d 569, 583 (9th Cir. 1998).
60 See, e.g., Save Our Heritage, 269 F.3d at 56. This case also demonstrates the difficulty plaintiffs face challenging FAA decisions. The Court accorded such a high degree of deference to the FAA that the court appears to insult the challenger: "The FAA's final assessment . . . can be overcome by a sustained and organized rebuttal. Nothing offered by petitioner approaches such an effort. Gauzy generalizations and pin-prick criticisms, in the face of specific finding and a plausible result, are not even a start at a serious assault." Id. at 60.
61 See Grand Canyon Trust v. FAA, 290 F.3d 339, 346 (D.C. Cir. 2002) (finding that NEPA requires the FAA to consider the cumulative, rather than incremental, impact of a replacement airport that would add only six additional flights per day).
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finding of negligence. Some courts have simply imposed liability for trespass. Regardless of what standard is applied, an NPDES permit may be required if the jurisdiction considers pesticides to be a pollutant, though this is not a uniform interpretation.

An NPDES permit was required in League of Wilderness Defenders/Blue Mountains Biodiversity Project v. Forsgren, where environmental groups challenged the spraying of insecticide over 628,000 acres of national forest. The spraying was part of an annual program aimed at controlling possible outbreaks of the douglas fir tussock moth. The court held that a plane that discharges an insecticide is considered a point source and thus that an NPDES permit was required. The court found the issue of pesticide drift was not adequately analyzed in the EIS prepared by the U.S. Forest Service. The EIS provided for mitigation measures designed to prevent harm to moths and butterflies in the designated wilderness areas, but did not consider the environmental impact on the non-designated wilderness areas. The drifting of the insecticide could adversely affect aquatic insects, birds, and plants; however, these species were not considered in the EIS. The court held the EIS did not take the required "hard look" at the environmental effects on the designated wilderness area.

Regardless of whether an NPDES permit is obtained, landowners who damage neighboring property by overspraying may be liable under theories of trespass, negligence, or strict liability. In Green v. Zimmerman, a South Carolina court found that spraying crops adjacent to a fish pond caused the fish to die and held the owner of the aircraft strictly liable. A Missouri court, in Watkins v. Johnson, found a crop sprayer liable for damage to

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63 See Bennett v. Larsen Co., 348 N.W.2d 540 (Wis. 1984); Burns v. Vaughn, 224 S.W.2d 365 (Ark. 1949).
64 See Cross v. Harris, 370 P.2d 703, 705 (Or. 1962).
65 Purver, supra note 62.
66 League of Wilderness Defenders/Blue Mountains Biodiversity Project v. Forsgren, 309 F.3d 1181, 1182 (9th Cir. 2002).
67 Id.
68 Id. at 1192-93.
69 Id. at 1193.
70 Id. at 1191.
71 Id. at 1183.
72 Id. at 1192.
73 See Purver, supra note 62.
74 Green, 238 S.E.2d at 325.
his neighbor's clover crop, where spraying was conducted in hot and windy conditions. It is inefficient and inconsistent to depend on private landowners to sue for damages for such environmental harm. Landowners who cannot afford to sue may also suffer harm, and, in effect, all people suffer when the environment is harmed. Thus, it is not equitable to impose the costs of suit on any one plaintiff.

By design, pesticides affect the environment by eliminating insects, thus disturbing the natural balance of the ecosystem. FIFRA and CWA should regulate the use of pesticides more stringently. Aerial application of pesticides should only be allowed with adequate controls to prevent drift and overspraying.

B. Runway Expansion; Destruction of Habitat

Runway expansion may destroy wildlife habitat or introduce non-native pest species; both effects contravene the policies underlying NEPA and the ESA. The FAA, supported by the courts, has approved many airport projects without a full consideration of the impact on wildlife habitat destruction.

1. Airport Construction Projects Approved

The Fourth Circuit denied the state's request for review of a "FONSI" determination in North Carolina v. Federal Aviation Administration. At the request of the U.S. Navy, the FAA changed the restricted airspace over eastern North Carolina, expanding the size of areas used for bombing practice and laser-guided standoff weapon training. The Navy prepared an EIS, which the FAA reviewed, before issuing a FONSI. The FAA planned to address the cumulative impact of this and other nearby military airspace changes in another EIS. Although the U.S. Fish and Wildlife Service ("FWS") had identified threatened and endangered species nearby, the court deemed sufficient the Navy's response to realign the restricted airspace away from the shoreline. Less habitat would be destroyed if the FAA were required to obtain the approval of the FWS before making its determinations.

77 Id. at 1129.
78 Id. at 1130.
79 Id. at 1131.
80 Id. at 1134.
Similar to the *North Carolina* case, the limited input of the FWS was not sufficient to control runway expansion in Hawaii.\textsuperscript{81} Environmental organizations unsuccessfully argued that the FAA violated NEPA by failing to analyze the impact of a runway expansion project on the introduction of non-indigenous species into Hawaii.\textsuperscript{82} The Ninth Circuit determined that the FAA took the required "hard look" at the consequences of the proposed project and thus that the EIS satisfied NEPA requirements.\textsuperscript{83} In determining whether the FAA adequately analyzed the effects of the expansion project, the court stated that it need not necessarily agree with the FAA's conclusions, but instead must be satisfied that the EIS "fostered informed decision-making and public participation."\textsuperscript{84} The EIS included data on the impact of international flight arrivals, including significant discussion of the uncertain impact of alien species.\textsuperscript{85} The FAA did request an opinion from the FWS and a panel of biology experts chosen by the FAA.\textsuperscript{86} The FWS determined that the proposed project was "not likely to jeopardize the continued existence of any endangered, threatened or proposed endangered species."\textsuperscript{87} This would be cold comfort for any species not yet identified as threatened or for an endangered species significantly harmed, but not in a manner that jeopardized its continued existence. The opinion of the FAA's biologic assessment panel was even more frightening, finding "no one can predict which alien species might be introduced . . . due to the proposed project."\textsuperscript{88} Continuing such a project when experts cannot predict the potential harm posed by alien species to native species is evidence of a lack of environmental concern. The FAA opinion should have made it easy for the court to find FAA approval of the proposed project to be arbitrary and capricious, but it did not. The dissent noted that yearly non-stop flights from Asia, which were not possible before the proposed project, would now number 1100, greatly increasing the risk of introducing Asian species of pests.\textsuperscript{89} The sensitive nature of the Hawaiian biological hotspot

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\textsuperscript{81} See Nat'l Parks & Conservation Ass'n v. United States Dep't of Transp., 222 F.3d 677, 682 (9th Cir. 2000).
\textsuperscript{82} Id. at 678-79.
\textsuperscript{83} Id. at 682.
\textsuperscript{84} Id. at 680.
\textsuperscript{85} Id. at 680-81.
\textsuperscript{86} Id. at 679.
\textsuperscript{87} Id.
\textsuperscript{88} Id.
\textsuperscript{89} Id. at 686.
\end{quote}
was not given adequate regard by the court or the FAA. The species native to Hawaii that exist nowhere else on the planet, and the harm from a non-native pest or disease could be devastating and irreversible.

Unlike the uncertainty in the Hawaii case, destruction of habitat was certain in an Alaska airport expansion case. However, the court found nothing lacking in an EIS that made no mention of the potential impact on local wildlife. The Supreme Court of Alaska affirmed a review by the Division of Governmental Coordination under the Alaska Coastal Management Program. That agency approved a plan which, as submitted to the U.S. Army Corps of Engineers under the CWA, permitted Anchorage International Airport to dredge 240 acres of wetlands. Although there was no discussion of the species inhabiting the wetlands, the court found that the EIS "did not fail to consider any important factors." If the EPA or FWS had been involved, those agencies might have convinced the court otherwise. Two hundred and forty acres of wetlands certainly contained numerous species of wildlife, and wetlands play an important role in filtering water pollutants.

In another case involving wetlands filling, the court found that the Army Corps of Engineers' approval of the Port of Seattle's plan to fill in fifty wetlands was not arbitrary and capricious. The case involved construction of an 8,500-foot third runway at the Seattle-Tacoma International Airport, which would require 23.64 million cubic yards of fill. Despite evidence that the acreage of the wetlands was underreported, and that the Corps' decided to require only one-hundred-foot buffer zones around the impacted wetlands, instead of the 15,100-foot buffers recommended by FWS, the court deferred to the Corps decision. A later case brought by opponents of the same airport project was also decided in favor of the project, finding that

90 For an excellent discussion of the importance of biological hotspots, see generally John Charles Kunich, Ark of the Broken Covenant: Protecting the World's Biodiversity Hotspots (Praeger 2003).
91 Id.
93 Id.
94 Id. at 255.
95 Id.
96 Id.
98 Id. at 1211.
99 Id. at 1227.
there was "reasonable assurance" that the project would comply with state water quality standards. There was no discussion of the species that would be adversely affected by the filling-in of Miller Creek and the fifty separate wetlands. As previously stated, if the FWS were required to approve this project, the result might have been different, and the wetlands and their inhabitants saved.

Involvement of the FWS does not guarantee a more environmentally favorable result. In National Wildlife Federation v. Norton, the court found that the incidental take permit the FWS issued to airport park developers would not jeopardize survival of the fourteen species expected to be impacted by the development. An incidental take permit is an acknowledgement by the FWS that particular endangered or threatened animals may be killed. The proposed project would encompass nearly 2,000 acres of agricultural land adjacent to the Sacramento International Airport. The proposal was for the construction of offices, hotels, a golf course, and other improvements incidental to the airport. At the time of the suit, the land was fallow; however, it once provided valuable habitat for the Giant Garter Snake and Swainson's Hawk, which were listed as threatened under the Federal and California Endangered Species Acts, respectively. The developer's mitigation plan provided for the acquisition of 1,200 acres of land to be conserved as alternate habitat, only 25% of which would be in the same county, and none of it was required to be adjacent to the development site. Proximity of the alternative site to the habitat destroyed is critical to allow the individual members of the species to seek refuge in the new site. In fact, none of the alternative land had actually been identified. The petitioners claimed that the issuance of the take permit was arbitrary and capricious because: (1) there was inadequate evidence that the authorized take would not jeopardize survival of the species; (2) there was inadequately supported by the available evidence.  

100 Port of Seattle v. Pollution Control Hearings Bd., 90 P.3d 659, 665 (Wash. 2004).
101 See id. at 691-92.
103 Id. at 924.
104 Id. at 921.
105 Id.
106 Id. at 921-22.
107 Id. at 922.
108 Id. at 926.
109 Id. at 925.
quate funding available for the plan; and (3) there was no demonstration that the plan mitigated the harm to the "maximum extent practicable." The court deferred to the findings of the FWS, allowing the airport park development project to continue.

Endangered species were similarly ignored in a case involving construction of a new airport near Denver, although no ESA cause of action was alleged by the petitioners. The D.C. Circuit affirmed an FAA decision to build the new airport, notwithstanding that it would be near a wildlife refuge with at least one known pair of nesting bald eagles. The petitioners based their claims on Section 4(f) of the Department of Transportation Act. Once again, deference was not appropriate where the FAA was making decisions outside its area of expertise, and where the FWS was not involved in the decision. Courts should deem any EIS to be arbitrary and capricious if the FWS has not approved the proposed action.

2. Airport Projects Halted Because of Environmental Concerns

The California Northern District Court has been somewhat more environmentally friendly, at least demanding that a full EIS be prepared, and finding that a FONSI determination was not reasonable where environmental factors had not been given due consideration. In *California v. United States Department of Transportation*, the court granted a joint motion for summary judgment by the state and environmental organizations against the FAA, finding that the FAA's FONSI determination was unreasonable. The FAA had not prepared an EIS, although there was concern that the airport expansion project would impact the sage grouse and that it was possible that birds would be struck by aircraft. The FAA also failed to adequately analyze the cumulative impact of increased numbers of visitors to Yosemite National Park, including the impact on affected spe-

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110 Id. at 924.
111 Id. at 929.
112 Allison v. United States Dep't of Transp., 908 F.2d 1024 (D.C. Cir. 1990).
113 Id.
114 Id.
116 Id.
117 Id. at 971, n.1.
cies of wildlife, noise levels, and air quality.\textsuperscript{118} The court found that whether a project causes a significant effect on the environment requires evaluating the interests affected and the degree to which those interests will be affected, including "consideration of factors such as the controversial nature of the project, the cumulative impacts of the project, and the degree to which the project may impact endangered or threatened species."\textsuperscript{119} Because the FAA ignored these concerns, the California Department of Fish and Game concluded that the information contained in the Environmental Assessment ("EA") was inadequate to support the FONSI, and the court agreed.\textsuperscript{120}

The same court similarly required that environmental concerns be more thoroughly analyzed in an earlier case where it vacated a permit issued by the Army Corps of Engineers that would have allowed the filling of 180 acres of wetlands.\textsuperscript{121} The Oakland Airport planned to build additional cargo space, with parking and other facilities, and requested permits to fill one 375-acre plot and another 435-acre plot of wetlands.\textsuperscript{122} The Army Corps of Engineers approved a project of a reduced size, determining that no EIS was required because the 180-acre fill would have no significant environmental impact.\textsuperscript{123} The diked, nontidal baylands provided feeding and resting habitat for migratory shorebirds and waterfowl during the winter, as well as year-round habitat for other birds and wildlife.\textsuperscript{124} At least two endangered species, the salt marsh harvest mouse and the California least tern, were thought to inhabit the area.\textsuperscript{125} In addition, the wetlands filtered pollutants from run-off that drained into the San Francisco Bay, and this function would be damaged by the proposed plan.\textsuperscript{126} The court found that the Army Corps of Engineers did not effectively evaluate these impacts in deter-

\textsuperscript{118} \textit{Id.} at 974-75. \textit{See also} Shelby Angel, \textit{Airport Expansion – Costs vs. Environmental Damage When Expanding Airport Facilities – The Eighth Circuit Holds that all Reasonable Alternative Solutions Need Not Be Explained In Great Detail In the FAA’s Final Environmental Impact Statement – City of Bridgeton v. FAA}, 67 J. AIR L. & COM. 1009 (2002).

\textsuperscript{119} \textit{California v. United States Dep’t of Transp.}, 260 F. Supp. 2d at 972 (citations omitted).

\textsuperscript{120} \textit{Id.} at 973-74.

\textsuperscript{121} \textit{People ex rel. Van de Kamp v. Marsh}, 687 F. Supp. 495 (N.D. Cal. 1988).

\textsuperscript{122} \textit{Id.} at 497.

\textsuperscript{123} \textit{Id.}

\textsuperscript{124} \textit{Id.}

\textsuperscript{125} \textit{Id.} at 499.

\textsuperscript{126} \textit{Id.} at 500.
mining that no EIS was required and issued an injunction until the Corps investigated further.\textsuperscript{127} Although the court acknowledged that NEPA is essentially procedural,\textsuperscript{128} the court used the statute to ensure that the potential environmental harm was given due consideration.

Other courts should follow the precedent of the California Northern District Court in harnessing the unfettered discretion of the FAA. Courts should find any EIS or FONSI to be arbitrary and capricious if the harm to wildlife is not adequately analyzed and if the prevention of harm to wildlife is not given priority, particularly where endangered or threatened species are involved. Although courts are prohibited from substituting their judgment for the agency's decision, courts must support the congressional intent to protect the environment, as evidenced by the CAA, ESA, and CWA. Any FAA decision that impairs habitat of wild animals, where the decision is made without consultation with and the approval of the FWS, should be deemed arbitrary and capricious.

C. Noise Pollution

Courts and airports have been struggling with the problem of noise pollution since 1946, when the U.S. Supreme Court declared that a chicken farmer was entitled to compensation for a taking of his property because aircraft departing and arriving at an adjoining airfield disturbed his chickens.\textsuperscript{129} The Department of Transportation estimated that excessive aircraft noise was a significant annoyance for as many as seven million Americans by 1976.\textsuperscript{130} Congress responded to these concerns by enacting the Airport Noise and Capacity Act (ANCA), and providing incentives for airport operators to manage noise.\textsuperscript{131} However, this act has been thwarted by the FAA. The FAA has taken the position that it has the authority to review, both procedurally and substantively, all noise restrictions, and to sanction airport proprietors for breach of contract, suspending federal grant funds where the FAA has found the noise restrictions to be discriminato-

\textsuperscript{127} Id. at 501.
\textsuperscript{128} Id. at 498.
\textsuperscript{129} United States v. Causby, 328 U.S. 256 (1946).
\textsuperscript{130} NORMAN ASHFORD \& PAUL H. WRIGHT, AIRPORT ENGINEERING 485 (1992) (citing Aviation Noise Abatement Policy, United States Dept. of Transportation, Nov. 18, 1976).
tory toward certain types of aircraft. As a result, the ANCA has had minimal impact in reducing noise pollution. This leaves plaintiffs with the alternatives of nuisance claims or NEPA challenges.

In *Town of Cave Creek v. Federal Aviation Administration*, the D.C. Circuit Court deferred to an FAA decision that no EIS was required, although the petitioners alleged harmful noise pollution would result from air traffic re-routing. Petitioners claimed that the proposed changes to the high-altitude arrival and departure procedures at the Phoenix Sky Harbor International Airport would cause planes to fly over two Native American reservations. A court’s standard, when reviewing an agency’s FONSI on the environment, is limited to the following inquiries: whether the agency has (1) “identified the relevant environmental concern;” (2) taken a “hard look” in preparing the environmental assessment; and (3) made a convincing case that there will be no significant impact.

Similarly, the Tenth Circuit also affirmed an FAA FONSI decision in *Airport Neighbors Alliance, Inc. v. United States*, where a neighborhood group alleged that the upgrade of a runway at the Albuquerque International Airport would have a cumulative impact on noise and safety. In addition to the runway upgrade, the city’s master plan for the airport included expansion of the passenger terminal, construction of a new cargo terminal and parking structure, and expansion of access roads over a twenty-year period. In deferring to the FAA decision, the court found that the cumulative impact of the entire master plan need not be considered in creating an EIS because it was possible to expand the runway without completing all other projects proposed in the master plan.

The Tenth Circuit affirmed an FAA decision to provide airspace for military training, and found the EIS to be satisfactory. The court emphasized that NEPA “prohibits

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133 *Town of Cave Creek v. FAA*, 325 F.3d 320 (D.C. Cir. 2003).

134 *Id.* at 325.

135 *Id.* at 327.

136 *Airport Neighbors Alliance, Inc. v. United States*, 90 F.3d 426, 427-28 (10th Cir. 1996).

137 *Id.* at 428.

138 *Id.* at 431.

139 *Custer County Action Ass’n v. Garvey*, 256 F.3d 1024 (10th Cir. 2001).
uninformed—rather than unwise—agency action.”\textsuperscript{140} The EIS analyzed the “natural quiet” of the area as a resource\textsuperscript{141} but concluded that the impact of the proposal would be negligible.\textsuperscript{142} This level of deference by the courts encourages the FAA to ignore harmful environmental effects, including noise pollution. So long as the FAA analyzes the harm that will occur, courts have sanctioned the FAA’s decision. This is a mockery of the Administrative Procedure Act requirement that agency decisions must be overturned if a court finds such decision to be arbitrary and capricious.\textsuperscript{143}

In \textit{City of Bridgeton v. FAA}, the Eighth Circuit denied a petition to review an FAA decision to expand an airport, notwithstanding the EIS’s failure to measure whether aircraft noise would interfere with events in a historic district and park and not withstanding the destruction of five irreplaceable historic sites.\textsuperscript{144} The court found that the regulations required only that airport operators “measure in decibels the yearly day-night average noise level at various points near the airport”\textsuperscript{145} and if the choice of alternatives is not arbitrary or capricious, it will be upheld.\textsuperscript{146} This standard places a heavy burden on those who challenge FAA decisions, even though the FAA has no expertise on the emotional impact that loud noises can have on people and their enjoyment of a historic park.

A federal district court in Texas found that a hard look was sufficient, notwithstanding admitted impact on wildlife and people, in \textit{Welch v. United States Air Force}.\textsuperscript{147} Landowners brought suit under NEPA, challenging the Air Force’s plan to train combat bomber aircrews in the air space over their farms and ranches.\textsuperscript{148} The Air Force chose to designate airspace for these purposes, although it predicted the increase in noise level would increase the percentage of “highly annoyed” persons by eight percent.\textsuperscript{149} The aircraft would fly over state parks and scenic

\begin{footnotes}
\item[140] \textit{Id.} at 1034 (citations omitted).
\item[141] \textit{Id.} at 1036.
\item[142] \textit{Id.} at 1038.
\item[144] \textit{City of Bridgeton v. FAA}, 212 F.3d 448 (8th Cir. 2000).
\item[145] \textit{Id.} at 460
\item[146] \textit{Id.} at 461-62.
\item[147] \textit{Welch}, 249 F. Supp. 2d at 797, \textit{remanded by} Davis Mountains Trans Pecos Heritage Ass’n \textit{v. FAA}, Nos. 02-60288, 03-10506, 03-10528, 2004 WL 225986 (5th Cir. Oct. 12, 2004); see supra text accompanying note 25.
\item[148] \textit{Id.} at 801.
\item[149] \textit{Id.} at 802.
\end{footnotes}
rivers and the historic range of the Aplomado falcon would be potentially disturbed. The Air Force admitted that injuries to startled livestock were possible. The Air Force intended to compensate those ranchers harmed by the loss of livestock. The court found that NEPA requires only that the Air Force report acknowledge potential harm to livestock and other species and the potential adverse effects on the underlying area, so that the final decision-maker had adequate information to make an informed decision. Because the Air Force consulted with the FWS and requested lists of endangered species, the district court found that this constituted a sufficient "hard look," regardless of the resulting impact. Obtaining a list of endangered species in the area is not sufficient; the FWS was not asked to evaluate the project and its opinion was not part of the EIS. The Fifth Circuit re-evaluated this case when it was consolidated with two other cases on appeal. The Fifth Circuit affirmed that the EIS sufficiently addressed environmental impact to livestock, but ordered a supplemental EIS to address the economic impact of low-level flights over the ranches.

Similarly, a hard look was all that was required in Lee v. United States Air Force, where the court held that an EIS was adequate because it addressed a proposed project's impact on livestock, noise, land values, culture, and civil aviation; noted the cumulative effects of foreseeable actions; and offered alternative actions. Although the EIS used some studies that dated back more than twenty years, the court found no violation of the requirement that the agency use the "best available scientific information." The EIS acknowledged that the low-flying aircraft "may or may not lead to livestock damage," notwithstanding public hearing testimony that horses startled by noise had suffered fatal injuries when they ran over a fence in response to the aircraft noise, that people were injured by startled horses, and that other livestock had been harmed. The court found the

150 Id.
151 Id. at 836.
152 Id.
153 Id. at 838.
154 Id. at 850.
155 Id. at 848.
156 Davis Mountains Trans-Pecos Heritage Ass'n, 2004 WL 2295986.
157 Id. at *3, *10.
158 Lee v. United States Air Force, 354 F.3d 1229 (10th Cir. 2004).
159 Id. at 1244.
160 Id.
decision to expand the airport was not arbitrary nor capricious.\textsuperscript{161} This is another example of the lack of importance accorded to environmental harm, and the lack of meaningful review by the courts.

Courts have been somewhat more protective of the impact of aviation noise pollution on popular national parks. In several recent cases, the circuit courts have taken a closer look at the FAA statistics, and found them insufficient.\textsuperscript{162} Where Congress has specifically sought to protect our national parks from aircraft noise, the FAA has faced tougher scrutiny of its decisions. In an effort to limit aircraft noise impact on the Grand Canyon, Congress required the Secretary of the Interior to submit to the FAA recommendations for restoration of the natural quiet at Grand Canyon National Park.\textsuperscript{163} The FAA interpreted this goal to mean that 50% or more of the park should experience natural quiet for 75-100\% of the day as an annual average.\textsuperscript{164} The court found this standard to be unreasonable and contrary to the intent of the statute, because the average park visitor does not visit on an average annual day, but on a busy summer day, and will not benefit from an average with quieter off-season days.\textsuperscript{165} If the Eighth Circuit had similarly rejected the use of an annual average noise level in \textit{City of Bridgeton}, discussed in section II(C) above, the airport expansion may have been curtailed.\textsuperscript{166} The FAA only accounted for noise from tour aircraft, not from commercial jets, general, or military flights.\textsuperscript{167} The statistics gathered by the National Park Service indicated a significant number of commercial and general aviation flights created noise, in addition to the noise from the air tours that were the subject of the suit.\textsuperscript{168} Because the FAA ignored flights other than air tours in its calculations, the court remanded the case for further FAA study.\textsuperscript{169} The court’s scrutiny of the FAA standard in this case should encourage other courts to refrain from deferring to FAA decisions that are outside the FAA’s expertise. FAA

\begin{footnotes}
\item[161] Id.
\item[162] See, e.g., United States Air Tour Ass’n v. FAA, 298 F.3d 997 (D.C. Cir. 2002); Grand Canyon Trust v. FAA, 290 F.3d 339 (D.C. Cir. 2002); Nat’l Parks and Conservation Ass’n v. FAA, 998 F.2d 1523 (10th Cir. 1993).
\item[164] \textit{United States Air Tour Ass’n}, 298 F.3d at 1004.
\item[165] Id.
\item[166] See \textit{City of Bridgeton} v. FAA, 212 F.3d 448 (8th Cir. 2000).
\item[167] \textit{United States Air Tour Ass’n}, 298 F.3d at 1004.
\item[168] Id. at 1019.
\item[169] Id.
\end{footnotes}
decisions directly related to aviation safety are entitled to deference, but FAA determinations regarding the effect of noise on humans or livestock are not.

In another case involving a popular national park, the court required preparation of an EIS to determine the cumulative impact of increased noise levels in Zion National Park, overturning the FAA’s FONSI determination. The FAA had looked only at the incremental impact of the noise, in violation of NEPA regulations. The FAA used a weighted decibel scale to account for the differing impact of night-time noise levels and the impact of different sound frequencies, measured as “dBA.” The FAA determined that the ambient noise level in Zion National Park was twenty dBA. The maximum noise level from the proposed new airport was estimated at forty-five to sixty-five dBA, where an increase of ten dBA “correlates to a doubling of loudness such that a commercial jet overflight at the Park may be 4 to 23 times as loud as the natural soundscape.” The FAA had admitted in its Environmental Assessment that two to eight percent of park visitors would experience “moderate to extreme annoyance” from the additional flights. It is not clear why the court took the unusual step of questioning the scientific findings of the FAA in this case, but other courts should be encouraged to do likewise.

In an earlier case where opponents of noise levels were somewhat successful, the Second Circuit dissolved a ban on supersonic transport flights that prohibited the Concorde from landing at John F. Kennedy International Airport. The court found that the Port Authority could not ban Concorde flights indefinitely based on inconclusive studies on the effect of the supersonic jet’s low frequency emissions. But the court found that the Port Authority could adopt a “new, uniform and reasonable noise standard” in the future if it could show that the current standard is inadequate. In the concurrence, Judge Mansfield noted that there were 1,387 complaints about the

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170 Grand Canyon Trust, 290 F.3d 339.
171 Id. at 345.
172 Id. at 343, nn.1,2.
173 Id. at 344.
174 Id. at 345.
175 Id. at 344.
177 Id. at 1011-12.
178 Id. at 1012-13.
Concorde’s noise during the one year it operated out of Dulles, although only 1,000 people resided in the area.\textsuperscript{179}

Faced with the extreme deference of the federal courts, opponents of airport expansion have found hope in state and local laws. Courts have held that, although the FAA has exclusive jurisdiction over aviation safety concerns and use of airspace, environmental impact and land use are matters of local concern and are not preempted.\textsuperscript{180} This jurisdiction is limited, however, to the location of airports and local permit requirements and cannot impact the operating hours of an airport.\textsuperscript{181} The operating hours of an airport were at issue in \textit{City of Burbank v. Lockheed Air Terminal, Inc.}\textsuperscript{182} The Supreme Court held that a city ordinance that prohibited jet aircraft from taking off at Hollywood-Burbank Airport between the hours of 11 p.m. and 7 a.m. was invalid as preempted by the FAA.\textsuperscript{183} The court hinted that a municipality that owned and operated an airport may be able to impose such noise or curfew restrictions in its capacity as proprietor of the airport.\textsuperscript{184} This dicta gave support to the City of New York when, acting as proprietor, it restricted sightseeing flights from a seaplane base.\textsuperscript{185} The court upheld the restriction, finding no preemption by the Airline Deregulation Act,\textsuperscript{186} and finding that the restriction was not an unreasonable or arbitrary attempt to curb noise pollution in the city.\textsuperscript{187}

Noise pollution will continue to be a problem as populations encroach upon formerly isolated airports. New airports should be constructed in less environmentally sensitive areas, and more efficient use should be made of existing airports. Courts should not defer to FAA determinations regarding the impact of increased noise levels on humans and wildlife. The FAA’s expertise is limited to aviation safety, and the deference given to the FAA should be limited accordingly. It is dangerous to rely on the FAA to make reasonable determinations in a subject about which it admits to knowing very little.

\textsuperscript{179} Id. at 1016.

\textsuperscript{180} See, e.g., \textit{In re Commercial Airfield}, 752 A.2d 13 (Vt. 2000); City of Cleveland, Ohio v. City of Brook Park, Ohio, 893 F. Supp. 742 (N.D. Ohio 1995).

\textsuperscript{181} Id.


\textsuperscript{183} Id.

\textsuperscript{184} Id. at 635, n.14.

\textsuperscript{185} See \textit{SeaAir NY, Inc. v. City of New York}, 250 F.3d 183, 187 (2d Cir. 2001).

\textsuperscript{186} 49 U.S.C. § 41713(b) (2000).

\textsuperscript{187} \textit{SeaAir NY, Inc.}, 250 F.3d at 186-87.
D. De-Icing Runoff

Accumulations of ice on a plane's wing and tail surfaces can increase drag, decrease lift, and restrict control. Ice accumulation in the engine air intakes can result in engine failure. Icing is a factor in a significant number of aircraft accidents. Ice and snow on runways are a hazard in take-off and landing operations. Antifreeze-type solutions containing propylene or ethylene glycol and urea are commonly used as anti-icing agents to prevent ice and snow from adhering to aircraft, and as de-icing agents to remove ice and snow. These chemicals are noxious to aquatic life. Ethylene glycol is toxic to mammals, including humans, and can cause neurological, cardiovascular, and gastrointestinal problems, severe birth defects, and death. As of August 2000, the EPA estimated that twenty-one million gallons of aircraft de-icing fluid (ADF) were discharged into surface waters per year. If effluent limitations guidelines and standards suggested by the EPA were implemented, the EPA estimates that this figure could be reduced by more than 80%, to four million gallons. In August 2000, the General Accounting Office ranked water quality second after noise as the most important environmental issue raised by airport operations. ADF depletes water of oxygen as it biodegrades, resulting in the death of fish and other aquatic life. Although airports that discharge ADF into navigable waterways must obtain an NPDES permit, there are no limits on the amount that can be discharged and no federal controls on which chemical combination is used. Filtration, recovery, recapture, and treatment of the contaminated runoff water are not required. Non-chemical mechanical alter-

190 Id.
192 Id.
natives have not been fully explored, such as the use of heat to melt the ice and snow.

The harm caused by these chemicals was evident in *Buchholz v. Dayton International Airport*.\(^{196}\) A stormwater discharge basin was draining ADF into a creek that ran through the plaintiff’s property.\(^{197}\) The pollution resulted in over 2,000 dead fish, a discoloration of the creek, glycol odors, and foaming of the water.\(^{198}\) The airport had obtained an NPDES permit, which authorized a discharge of pollutants from seven identifiable points, so long as the effluent was in amounts that would not “impair designated stream uses.”\(^{199}\) The airport admitted that discharges from its stormwater system caused the foaming, discoloration, and odors and took steps to remedy the situation, including persuading tenants of the airport to use less harmful de-icing fluids.\(^{200}\) The court issued a preliminary injunction, and found that “Dayton’s handling and storage of solid wastes . . . have resulted in actual harm to the aquatic life of the Mill Creek, the possible contamination of local drinking water wells with ethylene glycol, and actual, albeit minor and transitory, acute health effects on persons.”\(^{201}\) The injunctive relief granted by the court was merely a continuation of the remedial action already taken by the airport to improve the situation.\(^{202}\)

This source of water pollution can be alleviated through the use of less harmful chemicals like sodium formate or through the use of heat and air to remove the snow and ice. The FAA should require the use of less harmful chemicals, and should require recovery and treatment of contaminated water.

**E. Emissions – Air Pollution**

The FAA contends that there is “no known cause and effect relationship between airplane emissions and human health” and therefore the Fourth Circuit has found it reasonable for the FAA not to study these effects further and to omit such effects from

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197 *Id.* at *4.
198 *Id.* at *7.
199 *Id.* at *8.
200 *Id.* at *13.
201 *Id.* at *24
202 *Id.* at *24-26.
an EIS. The findings of the EPA, described in Section I (D) above, are in direct conflict with this statement.

In *City of Olmsted Falls v. Federal Aviation Administration*, the city argued that the FAA failed to adequately disclose and analyze in its EIS the air quality impact of a proposed project to expand Cleveland Hopkins International Airport. The air quality analysis omitted the air quality impact of twenty-one construction projects used in the expansion master plan, as well as the impact of the additional air traffic attracted by the increased capacity of the runways. The FAA reported the air quality impact would be *de minimis*. The brief mention of these construction projects in the EIS, with the conclusion that the projects would be completed regardless of the approval of the airport master plan, was deemed by the court to be adequate disclosure. The court also found that the city had waived its Clean Air Act claims by failing to challenge the project at the FAA hearing. Additionally, the court found that the city did not prove that the emissions from these projects necessarily would undermine the FAA’s *de minimis* determination, only that the possibility existed. While deference ought to be given to the FAA’s findings concerning airfield capacity and demand, the same level of deference should not be given to the FAA’s determinations of air quality impact.

The *de minimis* exception allows the emission of noxious vapors so long as the increase in projected emissions is *de minimis* compared to emission levels without the proposed project. The problem is that the FAA determines what the emission levels would be both with and without the proposed project. Most challenges to these findings fail. The EPA sets forth the criteria for the *de minimis* exception in 40 C.F.R. § 93.153, providing that the air quality impact of “routine maintenance” of runways need not be determined. This exception does not apply to larger projects, such as runway expansion. However,

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204 City of Olmsted Falls v. FAA, 292 F.3d 261, 270 (D.C. Cir. 2002).
205 Id.
206 Id. at 271.
207 Id. at 270.
208 Id. at 271.
209 Id. at 271-72.
210 Id. at 270.
211 Id. at 272.
212 Id.
the court held that the Cleveland Hopkins International Airport project was merely a runway relocation, not an expansion (notwithstanding that one runway would be extended 2,250 feet). The court noted that the EPA merely suggests that the de minimis exception should not apply to runway expansions because they are larger projects. The court denied the petition for review of the FAA decision. This is another example of how the courts create numerous hurdles for any petitioner who challenges the FAA.

In City of Tempe v. Federal Aviation Administration, the court found a lack of sufficient evidence of irreparable harm resulting from a runway expansion despite potential damage to city buildings and citizen health due to increased emissions from a runway expansion project. Denying an injunction to stop the project, the court agreed with the FAA that the project came within the de minimis exception for repair projects. Other Clean Air Act (CAA) challenges to FAA airport projects have similarly failed because petitioners were unable to overcome the burden of the court's deference to the FAA.

The Administrators of the FAA and the EPA are required to consult with each other before either approves a testing procedure or process inconsistent with the emissions regulations and to determine whether such action requires rulemaking. This enforced collaboration between the EPA and the FAA should be approved more extensively to regulations that protect the environment from the harmful effects of aviation.

F. IMPACT ON NATIONAL PARKS AND WILDLIFE REFUGES

Noise is the primary impact of aviation on national parks and wildlife refuges. As discussed above, Congress attempted to limit this impact by enacting Section 4(f) of the Department of Transportation Act of 1996, prohibiting the use of parks for

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213 Id.
214 Id.
215 Id. at 273.
217 Id. at 60.
218 See, e.g., City of Los Angeles v. FAA, 138 F.3d 806 (9th Cir. 1998) (finding that a terminal expansion project fell under a CAA grandfather clause); Conservation Law Found. Inc. v. Busey, 79 F.3d 1250 (1st Cir. 1996) (finding that NEPA violation did not adversely affect determination of CAA compliance based on conformation with state implementation plan).
But this has not been effective because no court has ever found that an airport "uses" a park, as defined by the statute. In City of Grapevine v. Department of Transportation, the court denied review of an FAA determination that an expansion of the Dallas/Fort Worth International Airport would not "use" nearby historic residential properties. The FAA guidelines provide that recreational areas are "used" if the noise level exceeds seventy average day and night sound level measurements. The plaintiffs argued that the FAA guidelines were not the appropriate measure because they were developed for land use and funding decisions, not for purposes of Section 4(f). The court found the FAA was not arbitrary in following its own guidelines. The plaintiffs also argued that the FAA should not have applied the standard for residential properties because historic sites could be more sensitive to noise. The court found that the historic sites were in daily use as residences, and there was no reason to find that the residential standard was inappropriate simply because the sites were also historic. This adverse impact on historic properties is precisely the type of harm that Section 4(f) was intended to prevent; however, the FAA was allowed to thwart its effect.

A later case similarly trivialized the impact of noise on historic sites. In Save Our Heritage, Inc. v. Federal Aviation Administration, the FAA authorized commercial flights operating out of Hanscom Field, a small general aviation airport in the suburbs of Boston. The First Circuit agreed with the FAA that the addition of seven to ten round trip flights of a fifty-passenger turboprop commuter plane per day was de minimis and trivial, and would not be a constructive use of the nearby historic parks. The main access road to the airport runs through Minute Man National Historic Park, and the airport is close to Walden Pond and the historic homes of Ralph Waldo Emerson and Louisa

221 Id.
222 See, e.g., Nat'l Parks & Conservation Ass'n v. United States Dep't of Transp., 222 F.3d 677, 682 (9th Cir. 2000).
223 City of Grapevine v. United States Dep't of Transp., 17 F.3d 1502, 1507-08 (D.C. Cir. 1994).
224 Id. at 1507.
225 Id.
226 Id.
227 Id. at 1508.
228 Id.
229 See Save Our Heritage, Inc. v. FAA, 269 F.3d 49, 58-60 (1st Cir. 2001).
230 Id.
May Alcott.\textsuperscript{231} The court denied petitioners’ request for review, finding a 2.5% total annual increase in the number of flights to be trivial and ignoring the difference between the small general aviation plane that comprised the bulk of the existing flights and the large turboprops proposed, as well as the objections of the four surrounding towns.\textsuperscript{232}

In another decision finding no “use” of a park, the D.C. Circuit agreed with the FAA that airport noise would not “use” Barr Lake State Park, a recreational park and wildlife refuge.\textsuperscript{233} Even though the court admitted that the wrong standard for noise impact had been used by the FAA, the court found that this error was not prejudicial.\textsuperscript{234} This park was particularly sensitive to noise because at least one pair of bald eagles was known to nest in the park, and the park was widely known for its waterfowl.\textsuperscript{235} Although the petitioners argued that the park would be “used” by noise as well as air pollution, the court limited its discussion to the noise impact.\textsuperscript{236} The FAA found that the anticipated noise of the new airport would be insignificant according to the guidelines created by the FAA.\textsuperscript{237} The guidelines did not have a separate standard for wildlife refuges, so the FAA applied its guidelines for noise impact on nature exhibits, parks and golf courses.\textsuperscript{238} The court found that the standard was not appropriate because the focus of the guideline was the noise impact on people rather than the impact on wildlife.\textsuperscript{239} The FAA argued that “studies on the reaction of animals to aircraft noise have been inconclusive at best.”\textsuperscript{240} Although the court found the guideline was inappropriately applied, it determined that this FAA error was not prejudicial and therefore affirmed FAA approval.\textsuperscript{241} The court relied on the FAA’s determination that the noise impact of the proposed airport on the refuge would not be significantly greater than the noise impact of the existing air-

\textsuperscript{231} Id. at 53.
\textsuperscript{232} Id. at 58.
\textsuperscript{233} See Allison v. United States Dep’t of Transp., 908 F.2d 1024 (D.C. Cir. 1990).
\textsuperscript{234} Id. at 1026.
\textsuperscript{235} Id. at 1028.
\textsuperscript{236} Id.
\textsuperscript{237} Id.
\textsuperscript{238} Id. at 1029.
\textsuperscript{239} Id.
\textsuperscript{240} Id.
\textsuperscript{241} Id.
port being replaced, Stapleton International Airport.\textsuperscript{242} The FAA concluded in its EIS that portions of the refuge would be subjected to approximately five minutes per day of noise in excess of the noise equivalent of a household vacuum cleaner operating five feet away.\textsuperscript{243} Because some portions of the park would experience a decrease in noise levels when the new airport replaced the existing one, the court agreed with the FAA conclusion that the refuge would not be “used.”\textsuperscript{244} This case illustrates the difficulty petitioners face in showing that noise levels of a new project will be significantly worse than the current situation because so many of our parks are already affected by noise. The current laws do not seek to improve the situation, only to preserve the status quo.

In an unusual case finding a decision of the FAA to be arbitrary and capricious, the Tenth Circuit made a valiant effort to restrain the FAA.\textsuperscript{245} The court found that an FAA determination of no significant impact on Glen Canyon was arbitrary and capricious.\textsuperscript{246} The EIS prepared by the FAA indicated that both the number of aircraft heard by recreational users of the park, as well as the level of audibility of the aircraft, would double.\textsuperscript{247} Notwithstanding this estimate, the FAA concluded that the airport would have no significant impact on the area, providing empirical evidence to support its conclusion.\textsuperscript{248} The FAA rested on the defense that its determination of no significant impact was a technical determination within FAA discretion.\textsuperscript{249} The court disagreed, remanding the case for further FAA action.\textsuperscript{250} However, the airport had already been built and was in full operation, and the park had already suffered the damage.\textsuperscript{251} The court noted that under Section 4(f), if the FAA found a significant impact, the FAA would be required to take all reasonable steps to mitigate the damage.\textsuperscript{252} It would be a challenge to find a more obvious case of locking the barn door after the horse escaped.

\begin{itemize}
\item[\textsuperscript{242}] Id. at 1030.
\item[\textsuperscript{243}] Id.
\item[\textsuperscript{244}] Id. at 1031.
\item[\textsuperscript{245}] See Nat’l Parks & Conservation Ass’n v. FAA, 998 F.2d 1523 (10th Cir. 1992).
\item[\textsuperscript{246}] Id. at 1533.
\item[\textsuperscript{247}] Id. at 1532.
\item[\textsuperscript{248}] Id. at 1533.
\item[\textsuperscript{249}] Id.
\item[\textsuperscript{250}] Id.
\item[\textsuperscript{251}] Id.
\item[\textsuperscript{252}] Id. at 1534.
\end{itemize}
The FAA has been given broad powers and wide discretion which must not be abused. If the courts do not harness the FAA, the FAA should police itself to ensure that prevention of environmental harm is given its rightful priority. Courts should use the statutes enacted by Congress to ensure that the FAA's power is restricted appropriately. Pilots and airport owners can play a significant role in minimizing the environmental harm. Joint approval of the EPA, the FWS, and the FAA should be required for new airport projects. Improved information and data systems among the agencies involved would result in a more coordinated effort to minimize environmental harm. Pollution taxes or fines should be imposed on violators, and permits to pollute could be exchanged among aviation providers. The responsibility for environmental harm should be shared with designers, producers, suppliers, and users of aircraft.

A. Crop Dusting

Pilots can play a significant role in ensuring that pesticides sprayed from airplanes do not overspray the intended area and result in pollution of water or harm to neighboring flora or fauna. Landowners should choose pesticides that are environmentally less harmful. The FAA should impose more strict regulation on the aerial application of pesticides. Courts should impose strict liability for harm caused by aerial spraying of pesticides.

B. Destruction of Habitat

Airport designers can give a higher priority to the preservation of wildlife habitat when locating airports. The FAA should not approve any airport construction proposal that will negatively impact the habitat, food sources, or flight path of a listed species. Courts should find any FAA approval of an airport expansion or relocation plan to be arbitrary and capricious if listed species are impacted, and should require the input of the FWS.

C. Noise

Airports, aircraft designers, and pilots can all play a role in noise abatement. Because runway orientation and placement may have the most significant impact, airport designers should avoid locating runways near wildlife refuges, parks, or other sen-
sitive areas. Aircraft should be designed to minimize noise. In addition, where multiple runways are available, aircraft may be assigned by air traffic controllers to use a runway over sparsely-populated or less sensitive areas. Steeper glide paths initiated by pilots may decrease the noise impact on neighbors. Cutting back on power after achieving a safe elevation after takeoff may also reduce noise levels. Courts should be more willing to impose liability for nuisance when noise impacts neighbors of airports and should also be willing to find inverse condemnation in extreme cases. The FAA should have more restrictive regulations on engine noise and should encourage development of better standards to measure potential noise impact on humans, livestock, and wild animals.

D. WATER POLLUTION FROM DE-ICING RUNOFF

Pilots and airlines should insist on using less harmful de-icing chemicals and should use only the minimum amount required to be effective. Airport designers should design drainage systems that collect runoff and filter out the harmful chemicals before release into waterways. The FAA should regulate the quantity and type of de-icing chemicals used and the design of airport drainage systems. Airport managers can have a significant impact by specifying use of only potassium acetate or sodium formate, which are less biologically harmful than ethylene glycol. The Albany International Airport in Albany, New York, has a state-of-the-art filtration system that filters the propylene glycol from the rainwater runoff. The propylene glycol is converted to methane gas, which is then used in a co-generating plant to provide heat for one of the airport buildings. The end product of the cycle is clean water and harmless gases. Heat and other mechanical devices to chip off ice and snow can also be used. The EPA has suggested other steps to prevent water contamination. Congress should provide the EPA with a more active role in FAA decisions, similar to the cooperation required between the FAA and the EPA regarding aircraft emissions set forth in 14 C.F.R. § 34.3.

254 Id.
255 Interview with John O'Donnell, Chief Operating Officer, Albany County Airport Authority (Sept. 17, 2004).
256 Bulletin, supra note 189.
E. Emissions

Aircraft designers should strive to create aircraft engines that pollute less and the FAA and EPA should require that goals to reduce emissions be reached. Courts should require the FAA to consider the impact of increased air pollution in every EIS where increased air traffic will result.

IV. CONCLUSION

The FAA has been given wide authority over all issues affecting aviation. The FAA has failed in its obligation to protect the environment. Courts should be less deferential to the FAA in enforcing the laws that exist to protect our environment. More specifically, courts should defer only to FAA decisions that directly affect aviation safety. The FAA is not an expert in air or water pollution, or the impact of noise on humans or animals, and, therefore, FAA determinations in these areas should not be given deference by the courts. FAA decisions that minimize environmental harm over other considerations should be deemed arbitrary and capricious. FAA decisions that do not involve the input of the EPA or FWS, where appropriate, should also be deemed arbitrary and capricious.

NEPA should require not only a hard look at environmental concerns but should require such concerns to take priority over concerns of economy or convenience. The CWA should be amended to clarify that pesticides are pollutants and should limit the amount of pesticides applied aerially. Congress should give authority to the EPA to oversee decisions of the FAA that will impact the environment.

Aviation is an important industry as well as a pleasurable pastime. Aviation interests need not conflict with environmental interests, but care must be taken by all parties involved.