

CHAPTER 5

CUMULATIVE EFFECTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

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5.1 CUMULATIVE EFFECTS

A cumulative effects analysis within an EA should consider the potential environmental impacts resulting from "the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions" (40 CFR 1508.7). According to CEQ regulations, assessing cumulative effects involves defining the scope of the other actions and their interrelationship with the proposed action (and alternatives) if they overlap in space and time. Cumulative effects are most likely to arise when a proposed action is related to other actions that could occur in the same location or at a similar time. Actions geographically overlapping or close to the proposed action would likely have more potential for a relationship than those farther away. Similarly, actions coinciding in time with a proposed action would have a higher potential for cumulative effects.

Cumulative effects consider past, present, and reasonably foreseeable future actions.

To identify cumulative effects, the analysis needs to address three questions:

1. Could affected resource areas of the proposed action interact with the affected resource areas of past, present, or reasonably foreseeable actions?
2. If one or more of the affected resource areas of the proposed action and another action could interact, would the proposed action affect or be affected by the impacts of the other actions?
3. If such a relationship exists, are there any potentially significant impacts not identified when the proposed action is considered alone?

SCOPE OF CUMULATIVE EFFECTS ANALYSIS

The scope of the cumulative effects analysis involves both the geographic extent of the effects and the time in which the effects could occur. This cumulative effects analysis includes the boundaries of the five bases considered in the proposed action. Actions not occurring within or near these locations are not considered in the analysis. The time frame for cumulative effects starts in October 2001 when operations and construction would begin, depending on which base is chosen for the beddown. For purposes of this analysis, public documents prepared by federal, state, and local government agencies were the primary sources of information for identifying reasonably foreseeable actions.

In Chapter 4, each resource not only assesses the specific environmental consequences of individual elements, but it also accounts for the combined effects of all elements. Since this aspect of cumulative effects was presented in Chapter 4, it will not be discussed further in this section.

Chapter 4 of the EA includes analysis of past and present actions relevant to Global Hawk.

Known past and present actions that might result in cumulative effects are all Air Force activities. These past and present actions involve use of airspace, flight operations, noise, aircraft emissions, and aircraft safety rates. These activities are incorporated into the baseline conditions, and the proposed addition of Global Hawk activities to these activities has been analyzed in Chapter 4. No additional analysis of these past and present actions is required.

CUMULATIVE EFFECTS OF REASONABLY FORESEEABLE ACTIONS

Actions relating to cumulative effects of the proposed Global Hawk beddown would be specific to each alternative. The following describes the relevant foreseeable actions associated with each base and assesses their relationship to the proposed beddown. The amount of detail about the actions varies, so this assessment can only present the degree of specificity supported by available information.

Beale AFB. Two actions, one by the Department of Defense (DOD) and one by the communities around the base, overlap with the potential beddown of Global Hawk at Beale AFB. For the DOD action, the United States Coast Guard (Coast Guard) is evaluating Beale AFB as one of three northern California sites to receive an air station (Susan Boyle, personal communication, December, 2000). This air station, currently at McClellan AFB, would consist of four HC-130 search and rescue aircraft supported by about 100 personnel. Construction and renovation of a few facilities would start in 2002, and the relocation of aircraft and personnel would be complete by 2004. Under this proposal, newly constructed facilities would consist of a hangar, readiness shelter, maintenance facilities, and administrative space, all located in the northern flight line area of the base.

The proposed relocation would coincide with the beginning of the Global Hawk beddown. In addition, construction would occur in the same area as the proposed flight line construction for Global Hawk. Operations by the HC-130s would add to those by the Global Hawk, and additional personnel would be moved to Beale AFB.

The proposed Coast Guard action has been environmentally assessed (USAF 1997a) and no significant impacts would result. If combined with the Global Hawk beddown, the same conclusion would be reached. Combined aircraft operations by the Global Hawk and the HC-130s would account for a minimal increase in overall activity (i.e., 51,000 operations annually) at the base. In addition, both Global Hawk and the HC-130s are quiet aircraft with SELs more than 10 dB lower than the dominant aircraft operating at Beale AFB. As such, cumulative noise levels would not be expected to increase measurably. For all other resources, the combined effect of both proposed actions would neither exceed regulatory thresholds nor result in significant impacts.

Community actions in the area associated with Beale AFB include development of a speedway and an amphitheater. While within the same county, neither of these future actions would occur adjacent to the base. It is expected that development and use of these facilities would take place during the same time as the proposed beddown. Each of the proposed community actions would increase traffic on the road network also used to access the base. Although the speedway and amphitheater would draw thousands of spectators and increase traffic commensurately, their use would be occasional and not during times of the week or day when traffic to the base would occur. Therefore, the effects of the proposed beddown and these developments would not combine to increase traffic.

Edwards AFB. Available information indicates that no on-base proposals are likely to have a synergistic relationship to the Global Hawk beddown. In addition, Edwards AFB is very large and isolated from the region's communities, so cumulative impacts from non-DOD actions would be unlikely.

Ellsworth AFB. Ellsworth AFB has not proposed any foreseeable on-base actions with a relationship to the Global Hawk beddown. Local actions consist of plans to build a highway interchange on the south side of the base. While this action could result in temporary, construction-related traffic delays, it would improve long-term traffic flow and access to the base. No adverse cumulative impacts would result from this action and the Global Hawk beddown.

Tinker AFB. Neither the base nor the surrounding communities have planned or proposed actions that could interact with the Global Hawk beddown and generate cumulative impacts.

Wright-Patterson AFB. The Air National Guard is evaluating a proposal to beddown and operate F-16 fighter aircraft at Springfield airport approximately 15 miles northeast of Wright-Patterson AFB. These aircraft would not land or require maintenance or parking facilities at Wright-Patterson AFB. The beddown would result in an additional 7,000 airfield operations per year within the airspace above Wright-Patterson AFB, or an increase of about 17 percent over current levels of use. Such operations would likely increase noise levels and add to aircraft emissions. Global Hawk, however, would increase operations by only 0.9 percent and not appreciably contribute to overall increases in noise levels or aircraft emissions.

5.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA requires that environmental analysis include identification of "... any irreversible and irretrievable commitments of resource which would be involved in the proposed action should it be implemented." Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects this use could have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action (e.g., extinction of a threatened or endangered species or the disturbance of a cultural resource).

For Global Hawk, most resource commitments are neither irreversible nor irretrievable. Most impacts are short term and temporary, or longer lasting but negligible. Those limited resources that may involve a possible irreversible or irretrievable commitment are discussed below.

Global Hawk would require fuels used by aircraft and surface vehicles. The flight activities would result in fuel use for as long as the program continued. Flight activities and surface vehicles supporting aircraft maintenance and operations would use similar amounts of fuels, oils, and lubricants as at present.

The Global Hawk beddown would not contribute to cumulative impacts at any of the five bases.

Most Global Hawk impacts are short term and temporary or negligible. Resource commitments are neither irreversible nor irretrievable.

Personal vehicles used by the additional personnel proposed to support the action would consume fuel, oil, and lubricants. The amount of these materials used would not likely exceed that currently used by these same individuals and their families. As such, the proposed action would not increase consumption of these resources. In addition, quantities of steel and other materials used in construction would be committed under the proposed action. The increase in the use of these materials would be minimal.