



# United States Department of the Interior

OFFICE OF THE SOLICITOR

M-37017

OCT 03 2008

## Memorandum

To: Secretary

From: Solicitor

Subject: Guidance on the Applicability of the Endangered Species Act's Consultation Requirements to Proposed Actions Involving the Emission of Greenhouse Gases

On May 14, 2008, the U.S. Geological Survey (USGS) issued a memorandum entitled "The Challenges of Linking Carbon Emissions, Atmospheric Greenhouse Gas [GHG] Concentrations, Global Warming, and Consequential Impacts." Based on a review of "the best scientific and commercial data available," which is a requirement of the Endangered Species Act (ESA),<sup>1</sup> the memorandum reached the following conclusion:

It is currently beyond the scope of existing science to identify a specific source of CO<sub>2</sub> emissions and designate it as the cause of specific climate impacts at an exact location.

In response, the U.S. Fish and Wildlife Service (FWS or Service) issued guidance laying out an analytical framework within which the Service would be able to assist Federal action agencies (including the Service itself when intra-Service consultation is appropriate) in achieving procedural and substantive compliance with the Act. In that memorandum, the FWS Director stated:

GHG that are projected to be emitted from a facility would not, in and of themselves, trigger section 7 consultation for a particular action unless it is established that the emissions from the proposed action cause an indirect effect to listed species or critical habitat. To constitute an indirect effect, the impact to the species must be later in time, must be caused by the proposed action, and must be reasonably certain to occur.<sup>2</sup>

<sup>1</sup> Endangered Species Act of 1973 § 7(a)(2), 16 U.S.C. § 1536(a)(2).

<sup>2</sup> Memorandum from H. D. Hall, Director, U.S. Fish and Wildlife Service, on "Expectations for Consultations on Actions that Would Emit Greenhouse Gases" to Regional Directors. May 14, 2008.

Based on the above statement by USGS, I concur with the guidance provided by the FWS and conclude, for the reasons explained below, that where the effects at issue result from climate change potentially induced by GHGs, a proposed action that will involve the emission of GHG cannot pass the “may affect” test, and is not subject to consultation under the ESA and its implementing regulations.<sup>3</sup>

#### I. The “May Affect” Test

Section 7(a)(2) of the ESA requires Federal agencies to ensure, in consultation with either the Secretary of the Interior or the Secretary of Commerce and based on “the best scientific and commercial data available,” that their proposed actions will not be “likely to jeopardize the continued existence of any [listed] species or result in the destruction or adverse modification of the critical habitat of such species.” However, not all proposed actions of Federal agencies are subject to the consultation requirement. The section 7 regulations state that consultation is required only when a Federal agency determines that its proposed action “may affect listed species or critical habitat.” 50 C.F.R. § 402.14(a).

The regulations do not establish any criteria for determining when the “may affect” test is satisfied. The Final ESA Section 7 Handbook describes “may affect” as:

The appropriate conclusion when a proposed action may pose any effects on listed species or designated critical habitat.<sup>4</sup>

Based in part on this guidance, it is generally understood that a proposed action passes the “may affect” test when an agency determines there is some likelihood the proposed action will have an effect on listed species or designated critical habitat. Effects of a proposed action on listed species or critical habitat that are “beneficial, discountable or insignificant,” are still considered to be effects of the action. Final ESA Section 7 Handbook, page xv.

In determining whether a proposed action “may affect” a listed species, or, conversely, whether there will be “no effect,” a Federal agency must go through a multi-step process. First, the agency must determine what activities are encompassed by its proposed action. Second, it must determine, in at least a preliminary way, what the effects of those activities are likely to be on the environment. Third, the agency must determine whether those effects will “pose any effects” on a listed species or critical habitat—i.e., whether there are listed species or critical habitat within the reach of those effects.

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<sup>3</sup> The proposed action may, of course, involve activities other than the emission of GHG that could have effects that would trigger the consultation requirements. Such other effects are not the focus of this memorandum.

<sup>4</sup> *Endangered Species Consultation Handbook*, Glossary of Terms used in Section 7 Consultation, at xvi, issued by U.S. Fish and Wildlife Service and the National Marine Fisheries Service, March 1998. (Final ESA Section 7 Handbook).

## A. Activities Encompassed by the Proposed Action

In determining what activities are encompassed by a proposed action, agencies are subject to the definition of "action" found in the regulations. The regulations define an "action" as "all activities or programs of any kind ... carried out, in whole or in part, by Federal agencies," and "all activities or programs of any kind authorized [or] funded ... in whole or in part by Federal agencies." 50 C.F.R. § 402.02. Activities "authorized or funded" by Federal agencies will typically be carried out by persons or organizations other than the agency itself.

## B. "Effects of the Action"

In determining what the effects of a proposed action are likely to be, agencies are subject to the definition of "effects of the action" found in the regulations. Our regulations define "effects of the action" as follows:

Effects of the actions refers to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, that will be added to the environmental baseline. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process. Indirect effects are those that are caused by the proposed action and are later in time, but still are reasonably certain to occur. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. 50 C.F.R. § 402.02

There are thus two types of effects that need to be identified and evaluated to determine if a proposed action will "pose any effects" to a listed species or critical habitat: direct and indirect.<sup>5</sup>

### 1. "Direct Effects"

While "direct effects" are not defined in the regulations, they are commonly understood to be the immediate effects on a listed species or critical habitat that will result from the carrying out by the Federal agency of the proposed action itself or from the carrying out by third parties of the activities authorized or funded by the Federal agency. In other words, if the agency does what it is proposing to do, the "direct effects" are the effects that are the immediate and natural consequences of the taking of the proposed action. The Final ESA Section 7 Handbook states:

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<sup>5</sup> This analysis would include the evaluation of direct and indirect effects of interrelated and interdependent actions.

Direct effect: the direct or immediate effects of the project on the species or its habitat, e.g., driving an off road vehicle through the nesting habitat of piping plover may destroy its ground nest; building a housing unit may destroy the habitat of an endangered mouse. Final ESA Section 7 Handbook at 4-25.

## 2. "Indirect Effects"

"Indirect effects" are defined in the regulations as "those that are caused by the proposed action and are later in time, but still are reasonably certain to occur." 50 C.F.R. § 402.02. Indirect effects may involve the subsequent actions of others parties, but must ultimately be caused by the proposed agency action. Like "direct effects," they must be "caused by" the proposed action, but because they are effects that are "later in time," they are not necessarily inevitable. Thus, before concluding that an anticipated effect is an "indirect effect," the agency must determine not just whether it is "caused by" the proposed action, but also whether it is "reasonably certain to occur."

### C. "Action Area"

Once the direct and indirect effects from the proposed action have been determined, the agency must next determine whether a listed species or its critical habitat may be affected by those effects. To do that, the agency must determine the "action area" of its proposed action. Any listed species or critical habitat not present in the "action area" will, by definition, not be affected by the proposed action. *See, e.g.*, 50 C.F.R. § 402.12(c) and (d).

"Action area" is defined in the regulations as all "areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." 50 C.F.R. § 402.02.

### D. "Cumulative Effects"

It is important to note that "cumulative effects," as defined in the regulations, are not considered at the "may affect" stage as they are not "effects of the action" because they are not "caused by" the proposed action. "Cumulative effects are those effects of future State or private activities, not involving any Federal activities, that are reasonably certain to occur within the action area of the Federal action." 50 C.F.R. § 402.02 [emphasis added]. In other words, they are effects that would be "reasonably certain to occur" even if the proposed action was not taken.

Under the regulations, "cumulative effects" are taken into account at the formal consultation stage, which, in turn, is triggered as a result of an agency's threshold determination that the direct and/or indirect effects of its proposed action may have an effect on listed species or critical habitat. 50 C.F.R. § 402.14(c) and (g)(4). Thus, if the direct and/or indirect effects of a proposed action will themselves have no effects on a listed species or critical habitat, the effects of other unrelated actions in the action area—

i.e., the cumulative effects—are of no relevance in determining whether a proposed action “may affect listed species or critical habitat.”

## II. The “May Affect” Test and GHG Emissions

As the primary administrator of the Clean Air Act, the Environmental Protection Agency (EPA) has developed considerable expertise in current global climate change research and has substantial expertise in using the available models to analyze the fate of GHG emissions. Before applying the legal framework discussed above to a proposed action that will involve the emission of GHGs, we note as background the following statement that was recently made by the EPA:

To date, research on how emissions of CO<sub>2</sub> and other GHGs influence global climate change and associated effects has focused on the overall impact of emissions from aggregate regional or global sources. This is primarily because GHG emissions from single sources are small relative to aggregate emissions, and GHGs, once emitted from a given source, become well mixed in the global atmosphere and have a long atmospheric lifetime. The climate change research community has not yet developed tools specifically intended for evaluating or quantifying end-point impacts attributable to the emissions of GHGs from a single source, and we are not aware of any scientific literature to draw from regarding the climate effects of individual, facility-level GHG emissions.<sup>6</sup>

### A. Direct effects

For climate change to be considered a “direct effect” of a proposed action involving the emission of GHGs, it would have to be an immediate effect that will result from that emission. As noted above, at the “may affect” stage, the direct effects of the proposed action are considered and define the action area along with the indirect effects. While the emission of GHGs from a single source may ultimately constitute an extremely small constituent of the aggregate global concentration of GHGs, such an emission by itself does not have a direct or immediate climate change effect. That being the case, it is proper to conclude, for purposes of the “may affect” test, that there will be no “direct effect” in the form of climate change from such emissions.

### B. Indirect effects

For climate change to be considered an “indirect effect” on a member of a listed species or its habitat from a proposed action, the observed effect would have to be “caused by” the proposed action, occur later in time than the “direct effects” of the proposed action,

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<sup>6</sup> Letter from Robert J. Meyers, Principal Deputy Assistant Administrator, Office of Air and Radiation, EPA, to H. Dale Hall, Director, U.S. Fish and Wildlife Service, and James Lecky, Director of Protected Resources, National Marine Fisheries Service, on “Endangered Species Act and GHG Emitting Activities” (October 3, 2008) (Meyers Letter).

and be “reasonably certain to occur.”<sup>7</sup> When these three tests are met, an agency considers the indirect effects of the proposed action and uses those effects, along with the direct effects, to define the action area. As with “direct effects,” however, “indirect effects” are considered in determining if an agency action “may affect a listed species or critical habitat” while “cumulative effects,” that are not a part of the agency action are evaluated in the subsequent formal consultation, once the “may effect” determination has been made. Again, the “cumulative effects” are effects from independent actions that are “reasonably certain to occur” within the action area defined by the direct and indirect effects.

The statement from the Director of the USGS quoted at the outset of this memorandum indicates that the requisite causal connections cannot be made between the emissions of GHGs from a proposed agency action and specific localized climate change as it impacts listed species or critical habitat. Given the nature of the complex and independent processes active in the atmosphere and the ocean acting on GHGs, the causal link simply cannot currently be made between emissions from a proposed action and specific effects on a listed species or its critical habitat. Specifically, science cannot say that a tiny incremental global temperature rise that might be produced by an action under consideration would manifest itself in the location of a listed species or its habitat. Similarly, any observed climate change effect on a member of a particular listed species or its critical habitat cannot be attributed to the emissions from any particular source. Rather it would be the consequence of the collective greenhouse gas accumulation from natural sources and the world-wide anthropogenically produced GHG emissions since at least the beginning of the industrial revolution.

Moreover, even if a theoretical link between emissions and effects is hypothesized, a question arises as to the magnitude of the effect that might occur from that emission at the location of the listed species. The EPA has recently modeled global climate change impacts from a model source emitting 20% more GHGs than a 1500 MW coal-fired steam electric generating plant. It estimated a hypothetical maximum mean global temperature value increase resulting from such a project. The results ranged from 0.00022 and 0.00035 degrees Celsius occurring approximately 50 years after the facility begins operation. These values provide a way of understanding the scale of the issues involved. Not only are these modeled changes extremely small, the downsizing of these results to interpolate local applications would be a novel and untested application of the model, with even greater uncertainty in the predicted outcomes. The EPA concluded that

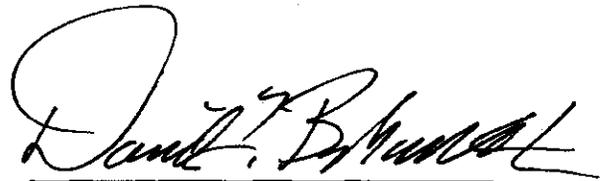
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<sup>7</sup> The regulatory requirement of a causal connection between the proposed agency action and the ultimate effect on a listed species has been upheld consistently by the courts. The Ninth Circuit recognized the need for a causal connection between the proposed agency action and a specific impact to a specific species or critical habitat when it held that an “Agency action can only ‘jeopardize’ a species’ existence if that agency action causes some deterioration in the species’ pre-action condition.” *Nat’l Wildlife Fedn v. Nat’l Marine Fisheries Serv.*, 524 F.3d 917, 930 (9th Cir. 2008). In an earlier decision, the Ninth Circuit concluded that the Service could not speculate about effects or the causal connection between the agency action and those “effects.” *Arizona Cattle Growers’ Association v. U.S. Fish and Wildlife Service*, 273 F.3d 1229 (9th Cir. 2001).

even assuming such an increase in temperature could be downscaled to a particular location, it “would be too small to physically measure or detect.”<sup>8</sup>

### III. Conclusion

Based on the USGS statement, and its continued scientific validity, we conclude that where the effect at issue is climate change in the form of increased temperatures, a proposed action that will involve the emission of GHG cannot pass the “may affect” test and is not subject to consultation under the ESA and its implementing regulations.<sup>9</sup>

A handwritten signature in black ink, appearing to read "David Longly Bernhardt". The signature is written in a cursive style with a large initial "D".

David Longly Bernhardt

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<sup>8</sup> Meyers Letter at 8.

<sup>9</sup> Correspondence from USGS Director to Solicitor, October 3, 2008.