

## **APPENDIX G**

### **Endangered Species Act Consideration**



# Appendix G

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Section 7(a)(2) of the Endangered Species Act (ESA) requires federal agencies, in consultation with the National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries) and/or the U.S. Fish and Wildlife Service (FWS, and, with NOAA Fisheries, the Services), to ensure that actions they authorize, fund or carry out are not likely to jeopardize the continued existence of federally-listed threatened or endangered species, or result in the destruction or adverse modification of designated critical habitat of such species. 16 U.S.C. § 1536(a)(2). Under relevant implementing regulations, consultation is required only for actions that “may affect” listed species or critical habitat. 50 CFR § 402.14. Consultation is not required where the action has “no effect” on such listed species or critical habitat. Under this standard, it is the federal agency taking the action that evaluates the action and determines whether consultation is required. *See* 51 FR 19926, 19949 (June 3, 1986). The effects of the action are defined by regulation to include both the direct and indirect effects on species or critical habitat. 50 CFR § 402.02. Indirect effects are those that are caused by the action and are later in time, but still are reasonably certain to occur. *Id.*; *Cf.*, 51 FR at 19932-19933 (discussing “reasonably certain to occur” in the context of cumulative effects analysis and noting that only matters that are likely to occur – and not speculative matters – are included within the standard).

Pursuant to Section 7(a)(2) of the ESA, NHTSA has considered the effects of the proposed CAFE standards and has reviewed applicable ESA regulations, case law, and guidance to determine what, if any, impact there may be to listed species or designated critical habitat. NHTSA has considered issues relating to emissions of carbon dioxide (CO<sub>2</sub>) and other greenhouse gases (GHGs) as well as issues relating to non-GHG emissions. Based on this assessment, NHTSA has determined that the agency’s action of setting CAFE standards, which will result in nationwide fuel savings and which, consequently, will generally result in emissions reductions from what would otherwise occur in the absence of the CAFE standards, does not require consultation with the Services under Section 7(a)(2) of the ESA.

### **G.1 DEPARTMENT OF THE INTERIOR VIEWS REGARDING ESA REQUIREMENTS AND GHG EMISSIONS**

The FWS and Department of the Interior (DOI) have considered issues concerning ESA Section 7(a)(2) requirements in the context of federal agency actions relating to sources of GHG emissions on a number of occasions. In the context of the final listing of the polar bear as a threatened species under the ESA (73 FR 28212 (May 15, 2008)), FWS determined, with supporting analysis provided by the U.S. Geological Survey, that the best currently available scientific data do not support drawing a causal connection between GHG emissions from particular sources and effects on listed species or their habitats, for ESA purposes. In addition, FWS explained that it does not believe there is sufficient data to establish that any such impacts are reasonably certain to occur, for ESA purposes. Based on these conclusions, FWS determined that federal action agencies need not consult under Section 7(a)(2) of the ESA with respect to any such impacts.<sup>1</sup>

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<sup>1</sup> *See* Memorandum from H. Dale Hall, Director, U.S. Fish and Wildlife Service re: “Expectations for Consultation on Actions that Would Emit Greenhouse Gases” (May 14, 2008); Memorandum from Mark D. Myers, Director, U.S. Geological Survey re: “The Challenges of Linking Carbon Emissions, Atmospheric Greenhouse Gas Concentrations, Global Warming, and Consequential Impacts” (May 14, 2008).

As FWS explained in the final polar bear listing:

Formal consultation is required for proposed Federal actions that “may affect” a listed species, which requires an examination of whether the direct and indirect effects of a particular action meet this regulatory threshold. GHGs that are projected to be emitted from a facility would not, in and of themselves, trigger formal section 7 consultation for a particular licensure action unless it is established that such emissions constitute an “indirect effect” of the proposed action. 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” .... [T]he best scientific data available today are not sufficient to draw a causal connection between GHG emissions from a facility in the conterminous 48 States to effects posted to polar bears or their habitat in the Arctic, nor are there sufficient data to establish that such impacts are “reasonably certain to occur” to polar bears. Without sufficient data to establish the required causal connection – to the level of “reasonable certainty” – between a new facility’s GHG emissions and impacts to polar bears, section 7 consultation would not be required to address impacts to polar bears.

73 FR at 28300. Subsequent to the final polar bear listing, DOI issued a Solicitor’s Opinion explaining DOI’s view that actions that involve the emission of GHGs do not meet the “may affect” threshold set forth in the ESA regulations and therefore do not trigger the consultation requirements of Section 7(a)(2) of the ESA.<sup>2</sup> The Solicitor’s Opinion explains that, for purposes of the ESA “may affect” test, neither direct effects nor indirect effects would result from GHG emissions from particular sources. The Opinion concludes that where the effect at issue is climate change, proposed actions that involve the emission of GHGs cannot pass the “may affect” test and therefore are not subject to ESA consultation.

FWS also addressed this issue in finalizing a special rule to protect the polar bear under Section 4(d) of the ESA, 16 U.S.C. § 1533(d). 73 FR 76249, 76265-76266 (December 16, 2008). At that time, FWS again considered whether federal actions associated with GHG emissions require consultation under ESA Section 7(a)(2). As FWS stated:

We have specifically considered whether a Federal action that produces GHG emissions is a “may affect” action that requires section 7 consultation with regard to any and all species that may be impacted by climate change. As described above, the regulatory analysis of indirect effects of the proposed action requires the determination that a causal linkage exists between the proposed action, the effect in question (climate change), and the listed species. There must be a traceable connection from one to the next, and the effect must be “reasonably certain to occur.” This causation linkage narrows Section 7 consultation requirements to listed species in the “action area” rather than to all listed species. Without the requirement of a causal connection between the action under consultation and effects to species, literally every agency action that contributes greenhouse gases to the atmosphere would arguably result in consultation with respect to every listed species that may be affected by climate change. This would render the regulatory concept of “action area” meaningless.

There is currently no way to determine how the emissions from a specific action both influence climate change and then subsequently affect specific listed species. As we now

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<sup>2</sup> See Memorandum from David Longly Bernhardt, Solicitor, U.S. Department of the Interior re: “Guidance on the Applicability of the Endangered Species Act’s Consultation Requirements to Proposed Actions Involving the Emission of Greenhouse Gases” (Oct. 3, 2008).

understand them, the best scientific data currently available do not draw a causal connection between GHG emissions resulting from a specific Federal action and effects on listed species or critical habitat by climate change.

73 FR at 76266. FWS also cited to the October 3, 2008, DOI Solicitor's Opinion confirming the conclusions that, given the current state of available science, a causal link cannot be made between GHG emissions associated with a proposed federal action and specific effects on a listed species. *Id.* FWS thus concluded that GHG emissions from such actions cannot pass the "may affect" test and are not subject to consultation under the ESA and its implementation regulations. *Id.*

The FWS' final rule under Section 4(d) became effective on January 15, 2009. Following the change in Administration, FWS reviewed and retained the 4(d) rule without alteration. As FWS stated during that review:

It is currently not possible to directly link the emission of greenhouse gases from a specific power plant, etc. to effects on specific bears or bear populations. This direct "connect the dots" standard is required under the Act and court rulings. Therefore, Fish and Wildlife Service's policy guidance to its field staff is not to require such consultations....Pending further review and analysis, the Department does not believe that a project-by-project ESA review of proposed actions that have the potential to increase greenhouse gas emissions, regardless of where they occur or how much they contribute to global greenhouse gas emissions, is the appropriate tool for addressing climate change impacts.

U.S. Department of the Interior, Polar Bear 4(d) rule – Q's and A's (May 8, 2009).<sup>3</sup>

Consistent with FWS' and DOI's guidance, NHTSA agrees that there must be a causal connection between a federal action and a potential effect on listed species or critical habitat for Section 7(a)(2) consultation requirements to apply, and that the potential effect must be reasonably certain to occur. NHTSA believes that any possible impacts on listed species or critical habitat of changes in GHG emissions associated the CAFE standards fall within the analytical framework laid out in their polar bear documents and Solicitor's Opinion, in which FWS concluded that consultation under Section 7(a)(2) of the ESA was not required.

## **G.2 ENVIRONMENTAL PROTECTION AGENCY ANALYSIS OF GHG EMISSIONS AND ESA REQUIREMENTS**

The Environmental Protection Agency (EPA) has also previously considered issues relating to GHG emissions from single sources in connection with the requirements of ESA Section 7(a)(2). In correspondence to the Services, EPA has acknowledged that the legal and technical analysis undertaken by FWS and DOI concludes that Section 7(a)(2) consultation on single-source GHG emissions is not required due to an absence of causation and reasonably certain effects, for ESA purposes.<sup>4</sup> As an

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<sup>3</sup> Available at: <http://www.fws.gov/home/feature/2009/pdf/QandApolarbear4drule.pdf> (last accessed Feb. 19, 2010). FWS has continued to consistently state this view of ESA requirements in connection with GHG emissions, including in its recent proposal of designated critical habitat for the polar bear. *See* 74 FR 56058, 56070 (Oct. 29, 2009) (stating that the underlying causes of climate change are complex global issues beyond the scope of the ESA); Polar Bear Proposed Critical Habitat Questions & Answers (reaffirming that the current state of the science is unable to connect a particular source of GHG emissions to effects on listed species or critical habitat). Available at: <http://alaska.fws.gov/fisheries/mmm/polarbear/pdf/PB%20PropCH.QsAs.Final.pdf> (last accessed February 18, 2010).

<sup>4</sup> *See* Letter from Robert J. Meyers, Principal Deputy Assistant Administrator, Office of Air and Radiation re: "Endangered Species Act and GHG Emitting Activities (Oct. 3, 2008).

additional basis for considering Section 7(a)(2) obligations, EPA also conducted a modeling analysis of single-source GHG emissions to assess the potential risk of harm to listed species – including the polar bear and listed coral species under NOAA Fisheries’ jurisdiction. In light of EPA’s considerable expertise in global climate change research and experience in utilizing available models to analyze GHG emissions, NHTSA believes EPA’s analysis is both relevant and instructive to NHTSA’s determination that its CAFE rule is outside the scope of ESA consultation.

In its analysis, EPA noted that 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 global sources. EPA also stated that 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 that EPA was not aware of any scientific literature regarding the climate effects of individual, facility-level GHG emissions. Additionally, because the global and regional-scale models lack the capability to represent explicitly many important small-scale processes, EPA further noted that confidence in regional- and sub-regional-scale projections is lower than at the global scale. There is thus limited scientific capability in assessing, detecting, or measuring the relationship between single-source emissions of GHGs and any localized impact on a listed species, its habitat, or its members for ESA purposes. EPA affirmed that its understanding of the available modeling tools was consistent with statements made by the U.S. Geological Survey (*see* footnote 1 above) in the context of the polar bear listing (*i.e.*, that it is 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 biological responses).

Notwithstanding the inherent uncertainties associated with modeling single-source emissions and localized regional or sub-regional end-point impacts, EPA analyzed the potential effect on temperature and tropical ocean pH of emissions from a hypothetical single source, which, as described in EPA’s letter, was a substantially larger source of emissions than any actual facility then awaiting permitting action by EPA.<sup>5</sup> EPA’s analysis projected at most only extremely small impacts on average global temperature and global atmospheric CO<sub>2</sub> concentrations over and beyond the anticipated functional lifetime of the hypothetical source. Although regional modeling and associated downscaling introduced untested approaches and additional uncertainties, EPA downscaled the projected global temperature changes to the Arctic and Caribbean regions in light of expected higher relative temperature increases at the poles. Ultimately, EPA concluded that any temperature and ocean acidification outputs from the modeled source would be extremely small, beyond physical measurement or detection in the habitat of listed corals or polar bears, and at a scale below any specific adverse temperature or acidification effects identified in the scientific literature for those species. Because the principal climate model used in the analysis would be the first step in any similar assessment for any species, EPA determined that similar conclusions would also apply to other species and locations. EPA concluded:

In these circumstances, and also in light of the uncertainties in attempting to use the models’ outputs to predict impacts at a local level, EPA has determined that the risk of harm to any listed species, including the listed corals or polar bears, or to the habitat of such species based on the anticipated emissions of the model facility as described above, or any facility with lower emissions, is too uncertain and remote to trigger ESA section 7(a)(2) obligations. Section 7(a)(2)’s purpose of ensuring no likely jeopardy to listed species and no destruction or adverse

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<sup>5</sup> For GHGs, EPA’s analysis used emissions estimates of 14,132,586 metric tons per year of CO<sub>2</sub>, 273.6 metric tons per year of nitrous oxide, and 136.8 metric tons per year of methane. With regard to non-GHG pollutants, the analysis used: Ozone (180.7 metric tons per year of volatile organic compounds); Carbon monoxide (6019 metric tons per year); Sulfur dioxide (3609 metric tons per year); and Nitrogen oxides (3018.5 metric tons for first five years, then 2326.2 annual metric tons for the remaining 45 years). In addition, EPA assumed that the model facility would have a useful life of approximately 50 years.

modification of designated critical habitat is not implicated by such remote potential risks. *See, e.g., Ground Zero Center for Non-Violent Action v. U.S. Department of the Navy*, 383 F.3d 1082 (9<sup>th</sup> Cir. 2004) (where the likelihood of jeopardy to a species is extremely remote, consultation is not required). This reasoning is consistent with the conclusion reached by FWS and DOI that consultation under ESA section 7(a)(2) is not required for GHG emissions from a single source.<sup>6</sup>

### **G.3 NHTSA'S ESA ANALYSIS RE: GHGS**

NHTSA received a comment on the DEIS submitted on behalf of the Center for Biological Diversity, Public Citizen, and Sierra Club claiming that NHTSA must consult with the Services under Section 7(a)(2) of the ESA regarding alleged potential impacts of the CAFE standards on listed species. *See* Docket No. NHTSA-2009-0059-0053.1. Among other things, the comment identifies 143 listed species for which, the comment asserts, “a recovery plan has been adopted that specifically identifies climate change or a projected impact of climate change as a direct or indirect threat to the species, as a critical impact to be mitigated, as a critical issue to be monitored, and/or as a component of the recovery criteria.” *See* Docket No. NHTSA-2009-0059-0090.1.

NHTSA agrees that climate change and related issues are relevant considerations in regard to the recovery of many species, including species listed under the ESA. However, NHTSA believes that the comment generally misunderstands the effect of the CAFE standards and misapplies ESA Section 7(a)(2)'s requirements. For instance, the comment appears to attribute the entire volume of emissions from the regulated sector – including a reference at one point to “increased greenhouse gas emissions” – to NHTSA's action. *Id.* NHTSA notes that the CAFE standards the agency is adopting (as well as each of the action alternatives) would reduce the severity of climate change as analyzed at a global scale and can, therefore, be expected to have a beneficial effect with respect to global climate change as compared to the No Action alternative.

NHTSA also believes that the comment misapplies the ESA Section 7(a)(2) threshold for consultation. NHTSA is mindful of the significant legal and technical analysis undertaken by FWS, DOI, and EPA regarding GHG emissions and the ESA. With regard to the CAFE standards, NHTSA's Final EIS analysis found that the agency's Preferred Alternative would reduce GHG emissions from passenger cars and light trucks when compared to the No Action Alternative. Across the range of action alternatives, the reductions range from 20,700 million metric tons of CO<sub>2</sub> equivalent to 48,300 million metric tons of CO<sub>2</sub> equivalent when compared to the No Action Alternative. For the Preferred Alternative, emission reductions amount to 32,300 million metric tons of CO<sub>2</sub> equivalent. NHTSA modeled the anticipated GHG reductions attributable to the action alternatives, including the proposed action, to determine their potential effect on climate change. NHTSA found that in year 2100 the action alternatives may reduce temperature increases from 0.007 to 0.018 degrees Celsius and may reduce sea-level rise by 0.06 to 0.16 centimeters from what it would otherwise be under the No Action Alternative. For the Preferred Alternative, the reduction in temperature increase in year 2100 would be 0.012 degrees Celsius, and the reduction in sea-level rise would be 0.010 centimeters. For the Preferred Alternative, NHTSA has also projected a reduction in CO<sub>2</sub> concentration of 3.1 parts per million in 2100. Thus, NHTSA expects the agency's action would have a beneficial overall effect on temperature and sea level rise by decreasing the severity of climate change and CO<sub>2</sub> concentration as assessed on a global scale. However, as described above in the analyses undertaken by FWS, DOI, and EPA, any efforts to translate these global changes to effects in the specific habitats of any listed species or to effects on such species is problematic.

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<sup>6</sup> *See supra* footnote 4.

For instance, as noted above, NHTSA believes that changes in GHG emissions associated with the CAFE standards are within the framework of the FWS/DOI analysis, which concluded that Section 7(a)(2) consultation is not required due to the absence of reasonably certain effects on listed species. Although the CAFE standards involve GHG emissions (in this case, reductions) from mobile sources rather than a single stationary source, NHTSA believes that FWS' analysis regarding causation is identical for the mobile sources regulated by the standards. In this regard, FWS' analysis that it is impossible, for ESA purposes, to trace a causal link between a single stationary source's GHG emissions and any reasonably certain effect on a specific species in a specific habitat would apply equally to the particular emissions (or reductions of emissions) from this action relating to mobile sources.

In addition, NHTSA has considered the magnitude of change to GHG emissions resulting from adoption of the proposed action in light of the modeling analysis undertaken by EPA. As described above, notwithstanding uncertainties and novel model applications, EPA attempted to analyze the emissions of a single large stationary source with respect to impacts on temperature and tropical ocean pH. EPA's conclusion was that any such potential effects would be so small as to be beyond physical measurement or detection in the habitats of listed species and outside the scope of any potential effect on such species/habitat identified in the scientific literature that EPA reviewed. NHTSA has determined that the same conclusion applies to changes in GHG emissions associated with the CAFE standards.

Based on these results, and consistent with EPA's analysis and the Ground Zero decision noted above, NHTSA also believes that any potential for a specific impact to listed species in their habitats associated with these very small changes in average global temperature is too remote to trigger the threshold for ESA Section 7(a)(2) consultation.

#### **G.4 NHTSA'S ESA ANALYSIS RE: OTHER AIR POLLUTANT EMISSIONS**

NHTSA has also carefully considered issues relating to changes in non-GHG emissions expected to result from implementation of the CAFE standards. As part of its rulemaking, NHTSA has estimated the total changes in national criteria and air toxic pollutant emissions annually to 2030. NHTSA has also reviewed additional analysis conducted by EPA to estimate changes to non-GHG emissions expected to result from EPA's related rule under the Clean Air Act establishing certain emissions standards for light duty vehicles. For most pollutants, there is a net decrease in emissions as fuel economy standards increase. That is, there are small emissions increases due to increased travel that are offset by emissions decreases due to reduced gasoline production and distribution. For other pollutants, there are small emissions increases as the standards are implemented over time. Variations are also present across the alternatives considered by NHTSA. For instance, emissions of carbon monoxide are slightly higher in Alternatives 2 through 4 when compared to the No Action Alternative. The trends for toxic air pollutant emissions across alternatives are mixed. Acrolein shows increases from levels under the No Action Alternative for all action alternatives in 2030, while formaldehyde shows increases from levels under the No Action Alternative for all alternatives except Alternative 2 in year 2030. Acetaldehyde shows increases for Alternatives 2 through 5, while 1,3-butadiene shows increases from levels under the No Action Alternative in Alternatives 2 through 4 in year 2030. Benzene and diesel particulate matter show decreases from levels under the No Action Alternative for all action alternatives in 2030.

For all of the non-GHG pollutants across each of the alternatives, the estimated national reductions – and, for a few pollutants, the estimated potential increases – are of extremely small magnitudes (substantially smaller by several orders of magnitude than estimated reductions in GHG emissions). The following chart provides NHTSA's estimated changes for each of the non-GHG pollutants.

Total Estimated Changes (Tons/Year)		
	2020	2030
VOC	-56,436	-114,725
CO	22,448	95,218
NO <sub>x</sub>	-13,791	-26,959
PM <sub>2.5</sub>	-1,851	-3,816
SO <sub>x</sub>	-11,460	-23,854
DPM	-6,220	-12,894
1,3-Butadiene	8	25
Acetaldehyde	16	50
Acrolein	3	6
Benzene	-96	-146
Formaldehyde	10	33

NHTSA has considered the potential effects of these pollutants and is unaware of information identifying any effects on listed species from such small fluctuations in pollutant amounts. NHTSA is aware that EPA has also carefully reviewed the effects of these pollutants and is documenting its literature search and the results of its analysis in the context of the Clean Air Act light duty vehicle rule that will be finalized contemporaneously with NHTSA's CAFE standards. NHTSA understands that EPA is similarly unaware of any information identifying impacts on listed species from these small changes.<sup>7</sup> Further, NHTSA notes that the modeling tools available for NHTSA's and EPA's regulatory analysis are not designed to trace fluctuations in ambient concentration levels to potential impacts on particular species. NHTSA believes that such models do not, therefore, attribute any biological response or impact on listed species to the ambient concentration changes with the degree of reasonable certainty required under the ESA. For similar reasons as explained above regarding GHG emission changes, NHTSA thus believes that ESA consultation is not required with respect to non-GHG emission changes attributable to the CAFE standards.

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<sup>7</sup> Among other things, EPA's review included consideration of the information contained in the Integrated Science Assessments for both Particulate Matter and Ozone (*see* U.S. EPA 600/R-08/139F, "Integrated Science Assessment for Particulate Matter" (2009); US EPA, 600/R-05/004aF-cF "Air Quality Criteria for Ozone and Other Photochemical Oxidants" (2006). These documents are developed pursuant to section 108 (a) (2) of the Clean Air Act, and "accurately reflect the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public ... welfare which may be expected from the presence of such pollutant in the ambient air."