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The Polar Bear Listing Story: Efforts to Regulate GHG Emissions Using the Endangered Species Act

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ABSTRACT

*In February 2005, the conservation advocacy group, Center for Biological Diversity (CBD), submitted a petition to the U.S. Fish and Wildlife Service (FWS) to list the polar bear (*Ursus maritimus*) as a threatened species under the federal Endangered Species Act (ESA), 16 U.S.C. §§ 1531-1544, due to the loss of the bear's sea ice habitat, which CBD attributed to global climate change. CBD's petition to list a high-profile species (a so-called "charismatic megafauna") for protection under the ESA based directly upon the projected effects of climate change attributed to anthropogenic greenhouse gas (GHG) emissions, has triggered vast media attention, extensive administrative proceedings leading to precedent-setting decisions, past and ongoing multi-district litigation, and an array of genuinely novel legal and practical issues. Perhaps chief among the novel applications of a polar bear listing is the potential application of the regulatory power of the ESA to indirectly regulate GHG emissions in the United States.*

This paper summarizes CBD's petition and the related administrative proceedings, decisions and litigation, which are ongoing, explains the case for and against the listing of the polar bear and the indirect regulation of GHG emissions through the ESA, identifies some of the many novel issues raised in pending litigation, and discusses the potential implications.

I. Context – Polar Bear Listing Proceedings

A. Polar Bears

Polar bears are the largest of the living bear species. They are carnivorous and an apex predator of the arctic marine ecosystem. Polar bears prey upon ring seals throughout their range and, to a lesser extent on bearded seals and other seal species.

Polar bears are evolutionarily adapted to life on sea ice, and have a circumpolar distribution throughout most ice-covered seas of the Northern Hemisphere. The global population of polar bears is estimated to be between 20,000 and 25,000. The distribution of polar bears in most areas varies seasonally with the extent of sea ice cover and the availability of prey. Currently, the global polar bear population has been divided among nineteen loosely-defined, low-density sub-populations. Polar bears are the only bear species, and one of the few large predators in the world, that still occupy its entire historical range. There is no evidence of an overall decline in the global polar bear population.

Within the United States, polar bears have been observed as far south as the eastern Bering Sea, but are only common within 180 miles of the Alaskan coast of the Beaufort and Chukchi Seas of the Arctic Ocean. The Southern Beaufort Sea (SBS) stock ranges within the United States and western Canadian Beaufort Sea offshore and nearshore areas in low densities of approximately one bear per 30 to 50 square miles. The SBS stock is currently estimated at approximately 1,500 bears. The Chukchi Sea (CS) stock ranges from as far west as the eastern Siberian Sea, to as far east as Point Barrow, Alaska. The CS stock is currently estimated at 2,000 bears by FWS, however, this estimate is not considered reliable due to very limited population data. FWS considers illegal polar bear hunting in Russia to be an important, but unquantifiable, threat to the CS stock.

Mortality resulting from Native subsistence harvests, legal trophy hunting and illegal hunting are the primary risk factors currently affecting global polar bear populations. Within Alaska, since adoption of the Marine Mammal Protection Act (MMPA), 15 U.S.C. §§ 1362-1423(h), in 1972, only Alaska Natives from coastal Alaskan villages have been allowed to hunt polar bears in the United States for their subsistence uses or for handicraft and clothing items for sale. Since the 1980s, annual subsistence harvest of polar bears by Alaska Natives has varied, but generally ranges in the low-100s. In 2004-05, subsistence harvest by Alaska Natives was estimated at approximately 114.

B. CBD's Petition

On February 16, 2005 (auspiciously, the date the Kyoto Protocol became effective without U.S. participation), CBD submitted its initial 170-page polar bear listing petition to FWS. CBD's petition acknowledged the stable global population,[1] but contended, based primarily upon selected climate change scenarios from the 2001 Special Report on Emissions Scenarios of the Intergovernmental Panel on Climate Change (IPCC), as discussed in the 2004 Arctic Climate Impact Assessment (ACIA), that the loss of 50 to 100 percent of summer sea ice in the arctic will

[1] CBD Petition at viii ("most populations are currently reasonably healthy and the global population is not presently endangered").

occur by 2100. CBD's petition further contended that the future predicted loss of sea ice will result in the demise of the polar bear because it is a sea-ice dependent species.

C. FWS's Pre-listing Findings

On February 7, 2006, FWS issued its initial 90-day finding that the petition submitted by CBD, as supplemented, presented substantial scientific information indicating that listing the polar bear may be warranted.[2] Almost a year later, FWS issued its 12-month finding on CBD's petition, and proposed to list the bear as a threatened species under the ESA.[3] FWS's proposed listing was premised upon its findings that the polar bear species is threatened by projected habitat loss and inadequate regulatory mechanisms to address sea ice recession.[4] Notwithstanding these findings, the specific subject of climate change is barely mentioned in the proposed listing and there is literally no mention of GHG emissions.

D. FWS's Final Listing Decision and Interim Special 4(d) Rule

1. Listing Decision

On May 15, 2008, FWS issued a 91-page final rule determining that the polar bear species should be listed under the ESA as a threatened species.[5] FWS's principal findings and rationale for the listing are seven-fold:

1. Polar bears are a sea ice dependent species.

2. The link between sea ice reduction and global climate change has been established.

3. Reductions in sea ice are occurring now and are likely to continue to occur within the foreseeable future (defined as the next 45 years).

4. The link between sea ice reduction and polar bear population reductions has been established.

5. The impacts on polar bear populations will vary, but all populations are likely to be adversely affected within the foreseeable future.

6. The rate and the magnitude of the predicted changes in sea ice will make adaptation by polar bears unrealistic.

7. There are no known regulatory mechanisms that directly and effectively address reductions in sea ice habitat at this time.

FWS deferred any decision on designation of critical habitat, but the agency has since committed to making a decision on critical habitat by June 30, 2010.

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[2] 71 Fed. Reg. 6745 (Feb. 7, 2006).
[3] 72 Fed. Reg. 1064 (Jan. 8, 2007).
[4] *Id.* at 1094-1095.
[5] 73 Fed. Reg. 28212 (May 15, 2008).

In contrast to FWS's earlier proposed listing decision, its extensive discussion of the link between sea ice recession, climate change (observed and predicted) and GHG emissions in the final rule is particularly notable. FWS found that the observed declines in sea ice, and the anticipated increase in the rate of that decline, is attributable to "three conflating factors: warming, atmospheric changes (including circulation and clouds), and changes in oceanic circulation."[6] Whereas GHG emissions were not mentioned in the proposed listing, FWS concludes in the final rule that as much as a third of the observed warming that occurred in the first half of the 20th Century is attributable to anthropogenic GHG emissions, and that most of the warming in the second half of the 20th Century is attributable to GHG emissions.[7] Indeed, based upon model simulations, FWS expressly concluded that currently observed and projected declines in arctic sea ice are "due to increased GHG concentrations."[8]

Notably, the final rule concludes that oil and gas exploration, development and production activities "do not threaten the species throughout all or a significant portion of its range."[9] FWS premised this conclusion upon mitigation measures now in place (and likely to remain in place) under the MMPA, information regarding the level of oil and gas development occurring within polar bear habitat, the absence of quantifiable impacts to polar bear habitat or polar bear populations in Alaska resulting from oil and gas activities, and the localized nature of potential oil spills.

Although the final listing decision links GHG emissions to sea ice recession to projections of polar bear decline, it also expressly rejects indirect regulation of GHG emissions pursuant to the ESA. FWS does so by finding that there is no scientifically-established causal connection between GHG emissions from any specific source and impacts to polar bears:

> The significant cause of the decline of the polar bear, and thus the basis for this action to list it as a threatened species, is the loss of arctic sea ice that is expected to continue to occur over the next 45 years. The best scientific information available to us today, however, has not established a causal connection between specific sources and locations of emissions to specific impacts posed to polar bears or their habitat.[10]

Accordingly, FWS confirmed that it "does not anticipate that the listing of the polar bear as a threatened species will result in the initiation of new section 7 consultations on proposed permits or licenses for facilities that would emit GHGs in the conterminous 48 States."[11] FWS similarly confirmed that "the future effects of any emissions that may result from the consumption of petroleum products refined from crude oil pumped from a particular North Slope drilling site would not constitute 'indirect effects' and, therefore, would not be considered during the section 7 consultation process [under the ESA]."[12]

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[6] *Id.* at 28223.
[7] *Id.* at 28225-28226.
[8] *Id.* at 28227.
[9] *Id.* at 28266.
[10] *Id.* at 28299.
[11] *Id.* at 28300.
[12] *Ibid.* ("there is no traceable nexus between the ultimate consumption of the petroleum product and any particular effect to a polar bear or its habitat").

2. 4(d) Rule

Contemporaneous with issuance of the polar bear listing decision, FWS issued an interim special rule for the polar bear pursuant to § 4(d) of the ESA, 16 U.S.C. § 1533.[13] Section 4(d) of the ESA allows the Services (i.e., FWS and the National Marine Fisheries Service (NMFS)), to adopt regulations limiting application of the prohibition on the take of species listed as threatened under the ESA.[14] FWS's interim 4(d) rule for polar bears implements limits on the application of the take prohibition in three distinct contexts.

First, under the interim 4(d) rule, the take prohibitions of the ESA do not apply to activities that comply with the MMPA. The MMPA provides a regulatory scheme for obtaining incidental take authorizations for marine mammals, including polar bears, provided that, among other things, the authorized take has no more than a "negligible impact" on the affected stock.[15] The MMPA also provides certain statutory exemptions for actions taken in defense of human life and property.[16] Accordingly, pursuant to the interim special 4(d) rule for polar bears, activities, such as oil and gas exploration and development on and near the North Slope of Alaska in polar bear habitat, authorized under the MMPA, do not constitute "take" under the ESA.[17]

Second, and similarly, the take prohibitions of the ESA do not apply to activities that comply with the requirements of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).[18] CITES and its U.S. implementing regulations at 50 C.F.R. part 23 monitor and regulate the trade in legally-possessed CITES specimens during international transit.

Third, the interim 4(d) rule limited application of the take prohibitions of the ESA to activities occurring in Alaska.[19] The presumed intent and the practical impact of this provision was to rely upon § 4(d) to exclude activities that emit GHGs outside of Alaska from the take prohibition in the ESA. In addition, as with the listing decision, the interim 4(d) rule includes a broad finding and legal interpretation that production of GHG emissions does not bring an action within the regulatory ambit of the ESA with respect to species or critical habitat that may be affected by climate change.[20]

E. FWS's Final 4(d) Rule

The interim 4(d) rule was adopted by FWS, and became immediately effective, without prior public comment pursuant to provisions of the Administrative Procedure Act (APA), 5

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[13] 73 Fed. Reg. 28306 (May 15, 2008). The interim rule, which became immediately effective, was promulgated at 50 C.F.R. § 17.40(q).

[14] Accordingly, § 4(d) has no application to species listed as endangered under the ESA.

[15] 16 U.S.C. § 1371(a)(5).

[16] *See id.* §§ 1371(b) (exemptions for Alaskan natives), 1371(c) (exemption for taking in self-defense or to save the life of another human), 1371(d) (Good Samaritan exemption), 1371(e) (national defense exemption), 1371(a)(4)(A) (exemptions to deter a marine mammal from damaging private or public property), 1379(h)(1) (exemptions applicable to public officials or designated persons to protect public health and welfare, and to remove nuisance animals).

[17] 50 C.F.R. § 17.40(q)(2).

[18] *Ibid.*

[19] *Id.* § 17.40(q)(4).

[20] 73 Fed. Reg. at 28312-28313.

U.S.C. § 553(b). Accordingly, the interim 4(d) rule also announced a public comment period on the application of § 4(d). After the public comment period, on December 16, 2008, FWS issued its final special 4(d) rule concerning the polar bear.[21]

The final 4(d) rule is nearly identical in application to the interim 4(d) rule; each of the three limitations on application of the take prohibition in the ESA are retained. Accordingly, with a minor clarifying change, the final 4(d) rule maintains the limitation applicable to actions undertaken in compliance with the MMPA or CITES. The final 4(d) rule also retains the broad exemption for actions occurring outside of Alaska, and expands its application to areas within Alaska outside of existing polar bear habitat. The final 4(d) rule also concludes again that "there is no causal link between greenhouse gas (GHG) emissions and take of specific polar bears."[22]

F. ESA § 7 Consultation Regulatory Amendments

On the same date FWS issued the final 4(d) rule for polar bears, the combined Services also issued a final rule amending interagency regulations governing implementation of the ESA by FWS and NMFS.[23] These regulations clarify and otherwise modify regulatory requirements related to consultation with the Services mandated by § 7(a) of the ESA.

In relation to GHG emissions, the new interagency regulations, effective on January 15, 2009, confirm the findings and conclusions stated in the polar bear listing decision, the interim 4(d) rule and the final 4(d) rule. Among other clarifications and modifications, the new regulations mandate that ESA consultation is not required when the direct and indirect effects of an action are not expected to result in take and either:

> (1) the effects of such action are manifested through "global processes," and
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> > (a) the effects of the action cannot be reliably predicted or measured on a scale of a listed species' current range, or
> >
> > (b) would result at most in an insignificant impact on a listed species or critical habitat, or
> >
> > (c) are such that the potential risk of harm to a listed species or critical habitat is remote, or
>
> (2) the effects of the proposed action on a listed species or critical habitat are not capable of being measured or detected in a manner that permits meaningful evaluation.[24]

Although crafted in broad general terms appropriate to the purpose of these regulations, the Services acknowledged that the changes were intended to address "the new challenge the

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[21] 73 Fed. Reg. 76249 (December 16, 2008). The final rule becomes effective on January 15, 2009, and will amend the provisions of the interim 4(d) rule at 50 C.F.R. § 17.40(q).

[22] *Id.* at 76265.

[23] 73 Fed. Reg. 76272 (December 16, 2008).

[24] *Id.* at 76287. These provisions are being implemented as amendments to 50 C.F.R. § 402.03(b).

agencies and Services confront regarding case-by-case consultation as it relates to greenhouse gas emissions and climate change."[25]

G. Polar Bear Litigation

1. Pre-listing Litigation

FWS's processing of the polar bear petition was prodded along at each step by litigation initiated by CBD. Initially, CBD sued FWS to force it to make its 90-day finding on the petition.[26] FWS subsequently stipulated to a settlement agreement with CBD, entered by the federal district court in July 2006, which required FWS to make its 12-month findings and proposed listing by December 27, 2006. FWS was sued again by CBD to force it to issue a final listing decision, which resulted in an injunction requiring FWS to make a final listing decision by May 15, 2008.[27]

These cases were strategically filed in the U.S. District Court for Northern District of California, a court otherwise lacking in any meaningful nexus to the polar bear, or to the polar bear decisions made by FWS. CBD's intent in selecting this venue for the early so-called "deadline" cases was to build a favorable venue advantage in litigation that it expected to follow the polar bear listing decision.

2. Listing and Interim Special 4(d) Rule Challenges

On the same day that FWS issued its final listing decision and the interim 4(d) rule, CBD, in combination with other conservation advocacy groups, filed an amended complaint in its existing deadline litigation in the Northern District of California. CBD's amended complaint was the first in a series of claims and procedural skirmishes over the polar bear listing decision that have now been consolidated by the Judicial Panel on Multi-District Litigation before Judge Emmet Sullivan in the U.S. District Court for the District of Columbia.[28]

Three general categories of polar bear lawsuits have been consolidated. First, CBD and other conservation advocacy groups (*i.e.*, Greenpeace, Natural Resources Defense Council, and Defenders of Wildlife) have raised claims challenging the listing decision and the 4(d) rule. Initially, CBD challenged the listing of the polar bear as a "threatened" species and argued that FWS should have instead listed polar bears under the more dire category of "endangered."[29] The underlying basis for CBD's challenge to the listing decision is that no rule issued under § 4(d) of the ESA would be permissible if polar bears were listed as endangered. CBD and others

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[25] *Id.* at 76279.

[26] *See Center for Biological Diversity v. Norton*, Case No. C-05-5191-JSW (N.D. Cal.) (filed December 15, 2005).

[27] *See Center for Biological Diversity v. Kempthorne*, Case No. C-08-1339-CW (N.D. Cal.) (filed March 10, 2008).

[28] *In re Polar Bear Endangered Species Act Listing and § 4(d) Rule Litigation*, Misc. Action No. 08-0764 (EGS) (D.D.C.).

[29] CBD's contention that the polar bear should have been listed as an endangered species is contrary to its original listing petition, which requested a threatened listing. However, while the final listing decision was pending with FWS, CBD submitted supplemental comments arguing that recent data regarding the extent and pace of sea ice recession in the Arctic Ocean justified listing the species as endangered.

have also asserted direct claims against the interim 4(d) rule on the multiple grounds that the rule violates the ESA and is otherwise arbitrary and capricious, that the interim 4(d) rule was issued without compliance with the National Environmental Policy Act (NEPA), and that the interim 4(d) rule was issued without public comment in violation of the APA. As of the date of this paper, with the issuance of the final 4(d) rule, amended claims by the conservation advocacy groups will be served in mid-March 2009. It is expected that these parties will withdraw claims asserted against the interim 4(d) rule and assert similar ESA and NEPA claims against the final 4(d) rule.[30] Numerous parties have or are expected to intervene in opposition to CBD's claims.[31]

A second category of lawsuits challenge FWS's listing decision on the grounds that the polar bear species should not have been listed under the ESA at all. Claims of this nature have been separately brought by the State of Alaska, the Safari Club International and the Pacific Legal Foundation (joined in by the California Cattlemen's Association, the California Forestry Association, and the Congress on Racial Equality).[32] CBD and other conservation advocacy groups have intervened in opposition to these claims.

Finally, a third category of lawsuits seek relief from the implementation of the listing decision in a manner that prevents trophy-hunted polar bears from being imported from Canada, where they were lawfully taken prior to the listing decision, into the United States. Claims of this type have been asserted by Safari Club International, Conservation Force and others.

Although seven months have passed since FWS issued its polar bear listing decision and since CBD first challenged the listing decision, as of the date of this paper, the polar bear litigation remains mired in procedural skirmishes regarding venue, intervention, claim amendments, adequacy of the administrative records, and briefing schedule, order and length. These preliminary issues are likely to predominate over the merits issues for several months to come. Absent an attempt by a party to obtain immediate injunctive relief – an action which has not occurred to date – no merits decision on any aspect of the polar bear listing and 4(d) decisions is expected until the fourth quarter of 2009 at the earliest.

3. ESA § 7 Consultation Regulations Litigation

The Services' issuance of amended interagency § 7 consultation regulations in December 2008 quickly prompted four separate lawsuits by CBD and other conservation-advocacy groups,

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[30] CBD's initial claims also asserted that FWS violated the ESA in failing to designate critical habitat, and violated the MMPA in failing to issue guidance mandated by 16 U.S.C. § 1371(a)(4)(B). These claims have been settled, with FWS agreeing to issue the MMPA guidelines by March 31, 2010, and to make a final critical habitat determination by June 30, 2010.

[31] As of the date this article was submitted, intervening parties consist of: Alaska Oil and Gas Association, Arctic Slope Regional Corporation, American Petroleum Institute, Edison Electric Institute, National Mining Congress, National Petroleum and Refiners Association, National Association of Manufacturers, and the Chamber of Congress for the United States of America.

[32] In addition, the American Petroleum Institute (API) has asserted a separate claim challenging the interim 4(d) rule on the grounds that the rule arbitrarily and unreasonably excludes Alaska from the broad limitation on take applied under 50 C.F.R. § 17.40(q)(4). Presumably, API will either amend or withdraw this claim in light of the issuance of the final 4(d) rule, which modifies the so-called "Alaska gap" in the interim 4(d) rule to exclude from the take limitation only those areas of Alaska within the polar bear's range.

the State of California, and the U.S. Chamber of Commerce.[33] The complaints filed by the conservation-advocacy groups and the State of California generally allege that the new regulations violate (1) the consultation requirements of § 7 of the ESA, (2) NEPA, on the basis that the agencies failed to prepare an environmental impact statement, and (3) the APA, on the bases that the issuance of the regulations was arbitrary and capricious and violated the APA's notice and comment requirements. In its complaint, the U.S. Chamber of Commerce alleges that the Services violated the APA by failing to properly respond to comments to the proposed regulation.

CBD and the other conservation-advocacy groups have employed a venue strategy similar to that used in the initial polar bear lawsuit, in which they filed their complaints in the district court for the Northern District of California within hours after the regulation was published in the Federal Register.[34] However, there will likely be an attempt to have all of the § 7 regulation cases consolidated with the polar bear litigation that is currently pending in the District of Columbia on the general grounds that the regulations at issue in both cases address the treatment of GHG emissions under the ESA.

4. Related Litigation

A significant secondary theme underlying CBD's petition to list the polar bear, is its opposition to oil and gas exploration and development in and offshore of Alaska. Since CBD's polar bear petition was first filed, nearly every major oil and gas exploration or development decision involving Alaska reserves has been the subject of federal MMPA, ESA or NEPA claims, many (but not all) on grounds directly related to polar bears and climate change.[35]

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[33] *Center for Biological Diversity et al. v. Kempthorne et al.*, Case No. 08-5546–MHP (N.D. Cal.) (filed December 11, 2008); *National Wildlife Federation et al. v. Kempthorne et al.*, Case No. 08-5654-MHP (N.D. Cal.) (filed December 18, 2008); *People of the State of California v. Kempthorne et al.*, Case No. 08-5775-MHP (N.D. Cal.) (filed December 29, 2008); *Chamber of Commerce of the United States v. Kempthorne et al.*, Case No. 08-2173-EGS (D.D.C) (filed December 11, 2008).

[34] The U.S. Chamber of Commerce filed its lawsuit in the District Court for the District of Columbia.

[35] *See, e.g.*, *Center for Biological Diversity, et al. v. U.S. Department of Interior, et al.*, No. 07-1247 (D.C. Cir.) (filed July 2007) (challenge to five-year plan for OCS oil and gas leasing); *Center for Biological Diversity v. Kempthorne, et al.*, No. 07-00141-RRB (D.Alaska) (filed February 2007), *appeal pending*, No. 08-35402 (9th Cir.) (challenge to Beaufort Sea MMPA incidental take regulation for polar bear and walrus); *North Slope Borough, et al. v. Minerals Management Service, et al.*, 2008 WL 110889, Case No. 07-00045 (D.Alaska 2008) , *appeal pending*, No. 08-35180 (9th Cir.) (challenge to Beaufort Lease Sale 202); *Native Village of Point Hope, et al. v. Kempthorne, et al.*, No. 1:08-cv-00004-RRB (D.Alaska) (filed January 2008) (challenge to Chukchi Sea Lease Sale 193); *Alaska Wilderness League, et al. v. Kempthorne, et al.*, 548 F.3d 815 (9th Cir. 2008) (challenge to Shell Beaufort Sea OCS Exploration Plan); *Native Village of Point Hope, et al. v. Minerals Management Service, et al.*, 564 F.Supp.2d 1077 (D.Alaska 2008), *appeal pending*, No. 08-35571 (9th Cir.) (filed July 2008) (challenge to federally-authorized seismic activity in the Beaufort and Chukchi Seas); *Center for Biological Diversity, et al. v. Kempthorne, et al.*, No. 3:08-cv-00159-RRB (D.Alaska) (filed July 2008) (challenge to Chukchi Sea MMPA incidental take regulation for polar bear and walrus).

CBD has also petitioned for the listing of numerous additional arctic and Alaskan species, and the designation of critical habitat, targeted to areas of known or anticipated oil and gas resources in Alaska or the adjacent Outer Continental Shelf (OCS).[36] A similar cycle of litigation concerning these petitions is beginning to unfold, with CBD recently suing FWS over failing to timely process its petition regarding Pacific walrus.[37]

II. Indirect Regulation of Climate Change Using the ESA

A. Options for Regulation of GHG Emissions

As FWS found in its polar bear listing decision, notwithstanding public attention and pressure, and international efforts developed under the 1997 Kyoto Protocol to the United Nations Framework Convention on Climate Change, there is no current regulatory mechanism that comprehensively, let alone effectively, regulates GHG emissions. Given the prominence this issue received during the recently completed presidential election, with both candidates calling for a return to 1990 GHG emission levels by 2020, and with President-Elect Obama further favoring an 80 percent reduction below 1990 levels by 2050, it is widely anticipated that the 2009 Congress will enact legislation establishing a national carbon cap and trade regime, and perhaps other direct mechanisms, to directly measure, limit, reduce or capture GHG emissions.

In the absence of a direct regulatory regime, a variety of advocacy interest groups, as well as some state and local governments, have increasingly sought to address climate change and GHG emissions through litigation. Generally, these climate change-related lawsuits fall into one of three broad categories. First, some litigants have sought to bring GHG emissions within the scope of existing regulatory programs administered by the U.S. Environmental Protection Agency (EPA) under the federal Clean Air Act (CAA). Although the U.S. Supreme Court has established that the federal government may regulate GHG emissions under the CAA, [38] EPA has yet to do so.

Second, other litigants have brought lawsuits under existing environmental statutes and regulatory schemes in an effort to indirectly advance particular GHG emissions and climate change agendas. Foremost among the statutes falling into this category is the focus of this paper, the ESA. However, in addition to the ESA, a growing volume of litigation has also sought to limit GHG emissions in the context of a particular program or project, through claims asserted under NEPA (and corresponding state laws).[39] Court decisions rendered in this litigation have

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[36] CBD successfully petitioned for the listing of the Cook Inlet beluga whale as endangered. *See* 73 Fed. Reg. 62919 (Oct. 22, 2008). CBD's petitions to list Pacific walrus and numerous other arctic seal species remain pending. *See* http://alaska.fws.gov/fisheries/mmm/walrus/pdf/walrus_q_a.pdf (Pacific walrus), 73 Fed. Reg. 51615 (September 4, 2008) (seal species). Most recently, in response to another CBD petition, NMFS determined that listing the ribbon seal is not warranted under the ESA. 73 Fed. Reg. 29822 (December 30, 2008).

[37] *Center for Biological Diversity v. U.S. Fish and Wildlife Serv.*, Case No. 08-00265-JWS (D. Alaska) (filed on December 3, 2008).

[38] *Massachusetts v. EPA*, 549 U.S. 497 (2007).

[39] As is the case with NEPA litigation generally, the Ninth Circuit Court of Appeals has been the preferred venue for such claims, and has staked out a position on the leading edge. *See, e.g., Center for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172 (9th Cir. 2008).

established that GHG emissions and climate change effects are appropriate subjects for consideration under NEPA. However, NEPA litigation has not proven a suitable avenue to promote a broader GHG emissions agenda because (1) NEPA is an entirely procedural statute and (2) there remains no settled method to analyze climate change in the environmental assessment of a specific project or program.[40] In addition, to a lesser extent on a national scale, but notably in Alaska, CBD has also relied upon the MMPA in asserting climate change-related claims.[41]

Finally, a few notable lawsuits have been filed in which the plaintiffs have sought to hold GHG-emitting companies or industries responsible for the alleged consequences of climate change. These lawsuits are premised upon common law liability theories, such as nuisance, and generally seek money damages, although injunctive relief has also been sought. However, common-law liability theories have to date proven to be an unlikely tool to force the indirect regulation of climate change.[42]

B. The ESA's Regulatory Scheme

The ESA, initially enacted in 1973 during the Nixon Administration, arguably enjoys the broadest public support in its general purpose – the conservation of fish, wildlife and plants facing extinction – of any federal environmental statute. At the same time, the ESA has engendered some of the most enduring national environmental policy debates, and has a litigious legacy that conservation advocacy groups, such as CBD, have raised to the legal equivalent of an art form.

There are four basic elements to the regulatory scheme enacted by Congress in the ESA. Two of these elements are species and habitat listing processes, and the other two elements are regulatory mechanisms for protection of listed species and their "critical habitat."[43]

1. Section 4 Listing Requirements

The two listing requirements are found in § 4 of the ESA.[44] First, relying "solely on the basis of the best scientific and commercial data available," FWS (in regard to terrestrial wildlife and plants, freshwater fish species, birds and certain marine mammals (polar bear, walrus, sea otters and dugongs)) and NMFS (in regard to all other marine species) must list species for protection under the ESA based upon any one of the following factors: (i) the present or

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[40] For these same reasons, NEPA litigation intended to delay or derail a specific program or project, rather than to more broadly regulate GHG emissions, has been more successful, or more problematic, depending upon your perspective.

[41] *See supra* n.37.

[42] *See, e.g., California v. General Motors*, 2007 WL 2726871 (N.D.Cal. September 17, 2007) (nuisance claims dismissed); *Connecticut v. American Electric Power*, 406 F.Supp. 2d 265 (S.D.N.Y. 2005) (same); *Native Village of Kivalina v. ExxonMobil, et al.*, Case No. 08-01138-SBA (N.D. Cal) (pending litigation).

[43] The requirements for listings and for compliance with the regulatory mechanisms of the ESA are detailed, complex in some areas and often nuanced in application depending upon the species, the action agency, the Service(s) and the proposal. The outline provided here is general for purposes of this paper, and is not intended as a comprehensive summary. *See generally* 50 C.F.R. part 402 (interagency Section 7 consultation regulations), part 423 (ESA Section 4 species listing and critical habitat designation regulations).

[44] 16 U.S.C. § 1533.

threatened destruction, modification, or curtailment of its habitat or range; (ii) overuse from commercial, recreational, scientific or educational purposes; (iii) disease or predation; (iv) the inadequacy of existing regulatory mechanisms; or (v) other natural or manmade factors affecting the continued existence of a species.[45] A listing can be initiated by either of the Services or, most commonly, by a public petition. With each listing decision under the criteria described above, the Services must classify the species as either "threatened" (i.e., a species likely to become an endangered species within the foreseeable future), or under the more dire category of "endangered" (i.e., in danger of extinction throughout all or a significant portion of its range).[46]

Under the second listing requirement, the Services must, to the "maximum extent prudent and determinable," designate "critical habitat" for species designated as threatened or endangered.[47] A species' critical habitat encompasses the specific areas essential to the conservation of the species and which may require special management considerations or protections.

2. Section 7 Consultation

The mechanisms enacted by Congress to protect listed species (and designated critical habitat) are principally those found in Sections 7 and 9 of the ESA. Under Section 7 of the ESA, all federal agencies must "insure through consultation" with one or both of the Services that actions authorized, funded, or carried out by such agencies are "not likely to jeopardize the continued existence" of listed species or "result in the destruction or adverse modification of [critical] habitat" designated for such species.[48] Subject to the same "best available science" requirement as listing decisions, consultation under Section 7 generally culminates in a biological opinion prepared by one of the Services that determines whether the proposed action is likely to jeopardize the continued existence of any listed species or adversely modify designated critical habitat.[49] If the biological opinion concludes that the proposed action is likely to jeopardize a species or adversely modify critical habitat, the Services must identify "reasonable and prudent alternatives" to the proposed action that would meet the requirements of the ESA, as well as the purpose and need of the proposal.[50] Conversely, if the biological opinion concludes that the proposed action is not likely to adversely affect listed species or critical habitat, the Services will issue, as part of the biological opinion, an "incidental take statement" (ITS) authorizing take expected to occur as a result of the action and may require that certain measures be employed to ensure that no adverse effects will result.[51]

3. Section 9 Take Prohibition

Section 9 of the ESA broadly prohibits "any person" from the "taking" of any endangered species in the United States or on the high seas, except pursuant to an incidental take authorization issued by one of the Services, or as allowed by statutory exemption.[52] "Take" means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to

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[45] *Id.* §§ 1533(a)(1), (b).
[46] *Id.* §§ 1532(6), (20).
[47] *Id.* §§ 1533(a)(3)(A), 1532(5)(A).
[48] *Id.* § 1536(a)(2).
[49] *Id.* § 1536(b)(3).
[50] *Ibid.*
[51] *Id.* § 1536(b)(4).
[52] 16 U.S.C. § 1538(a).

engage in any such conduct."[53] "Harm" has been defined by regulation to include "significant habitat modification or degradation where it . . . injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering."[54] Courts have upheld application of the take prohibition to activities as varied as intentional killing and injuring, activities that cause harm resulting by degrading habitat and governmental authorizations of private activities that result in certain harm.

Notably, the take prohibition enacted in Section 9 of the ESA does not apply to species listed as "threatened." Instead, under Section 4(d) of the ESA, the Services may promulgate a regulation applying the prohibitions of Section 9 to threatened species. The Services have taken distinctly different "opt-in" and "opt-out" approaches to implementing this provision. FWS has enacted a broad regulation that applies Section 9 to all species it lists as threatened, unless FWS adopts a special rule implementing limits regarding a specific species (e.g., the interim and final special 4(d) rules regarding polar bears). In contrast, NMFS has not adopted a general rule and instead, addresses application of take prohibitions to threatened species case-by-case in connection with each listing decision or by separate rule.

C. CBD's Arguments for ESA Regulation of GHG Emissions

The requirements of the ESA are both procedural (e.g., requiring the Services to timely decide listing petitions, and requiring all federal agencies to consult under Section 7), and substantive (requiring that federal agencies not jeopardize listed species, and prohibiting unauthorized take). The substantive provisions of the ESA provide the Services with the authority to, in effect, require modifications of a proposed action necessary to avoid jeopardy, or to scuttle a project. In the recent ESA litigation and regulatory activities described above, CBD and others have promoted the concept that GHG emissions can be indirectly regulated via the action-forcing substantive provisions of the ESA. This agenda is evaluated in more detail below.

The stated policy premise underlying application of the ESA to GHG emissions has been two-fold: (1) the lack of a comprehensive U.S. regulatory regime to address GHG emissions, and (2) the need for immediate action. In other words, in an otherwise imperfect situation, indirect regulation through the ESA is the "best hope" for action. It remains to be seen how this policy imperative will evolve as the Obama Administration and Congress enact GHG emissions programs, but there is little reason or evidence to suggest that regulation of GHG emissions under the ESA will drop from the top of CBD's agenda in the foreseeable future.

The analytical premises of CBD's arguments for regulation of GHG emissions under Sections 7 and 9 are fairly straight-forward.[55] For Section 7 consultation, the legal logic is as follows:

1. Section 7 consultation is required for "any action [that] may affect listed species or critical habitat."[56]

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[53] *Id.* § 1532(19).

[54] 50 C.F.R. § 17.3.

[55] *See* Brendan R. Cummings & Kassie R. Siegel, "*Ursus maritimus*: Polar Bears on Thin Ice," 22 Natural Resources & Environment, No. 2 (2007).

[56] 50 C.F.R. § 402.14.

2. Agency "action" is defined to include "all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas. . . . includ[ing], not limited to: . . . actions directly or indirectly causing modifications to the land, water, or air."[57]

3. It is unlawful for a federal action to "jeopardize" listed species, or adversely modify critical habitat. To "jeopardize" a species means "to engage in an action that reasonably would be expected, directly or indirectly, to reduce *appreciably* the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of the species."[58]

4. The federal authorization of activities that result in GHG emissions constitutes an "action" under the ESA.

5. Emission of "appreciable" amounts of GHGs requires Section 7 consultation. Any action that "appreciably" contributes to climate change, jeopardizes species threatened or endangered by climate change and may, therefore, be altered or prohibited under the substantive provisions of the ESA.

Left murky, at best, in this analysis, is the conflation of "appreciably" and "appreciable," how determinations may be made regarding the definition and calculation of appreciability,[59] and how cumulative effects may factor into the equation. However, CBD has stated that it believes there are "perhaps hundreds" of federally funded or authorized projects "having an appreciable effect on the atmosphere" through GHG emissions, including among them the Minerals Management Service's five-year oil and gas leasing plans for the OCS, permitting of coal-fired power plants, oil shale leasing programs, limestone mines for cement manufacturing and fuel economy standards for vehicles.

D. Arguments Against ESA Regulation of GHG Emissions

The arguments against use of the ESA to regulate GHG emissions are primarily matters of policy and causation. Issues of policy and practicability are largely left to the purview of Congress and the Executive Branch, and are unlikely to play a direct role in the resolution of the pending litigation regarding the polar bear listing and 4(d) rule, and the new ESA Section 7 regulations. On the other hand, the problems with establishing causation are featured in FWS's recent decisions, and are very likely to be at the forefront of arguments presented and addressed

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[57] 50 C.F.R. § 402.02.

[58] *Id.* (emphasis added).

[59] For example, if appreciability is merely a matter of that which may be estimated or measured, then everything is appreciable in this context and the term is superfluous. See, e.g., Letter from Robert J. Meyers, U.S. EPA, to FWS and NMFS, "Endangered Species Act and GHG Emitting Activities," (Oct. 3, 2008) (EPA letter summarizing its use of the Model for the Assessment of Greenhouse-gas Induced Climate Change (MAGICC) to calculate the expected percentage contribution of GHG emissions from various sources to both global atmospheric CO_2 concentrations and to the global mean temperature increase projected to result from GHG emissions). If, on the other hand, appreciability means something akin to "important enough to matter," then the term still begs the question of what amount of GHG emissions, if any, may be causally linked to adverse effects to a listed species.

by the courts, and to be presented and addressed by the Services through Section 7 consultations as the future unfolds.

1. Policy Concerns

The policy arguments against use of the ESA to regulate GHG emissions are relatively compelling. First, if reduction of GHG emissions is an important policy objective, there is little to recommend pursuing that objective in an indirect manner through the ESA. Climate change and GHG emissions regulation are global issues with far broader and complex implications than arctic sea ice recession. Second, the Services are not staffed, funded or otherwise equipped to monitor, evaluate and manage GHG emissions, let alone to conduct consultations regarding every federal decision that may result in "appreciable" GHG emissions. Indeed, the management and regulation of GHG emissions does not fall within the stated purpose or mission of either of the Services. Taxing the agencies with an additional mission – to regulate GHG emissions – would severely dilute the effectiveness of the Services in serving their current missions. Finally, use of the ESA to regulate GHG emissions would effectively leave advocacy groups, and ultimately the federal courts, to cobble together a regulatory program on a species-by-species, project-by-project, issue-by-issue, case-by-case campaign of tedious, expensive and unpredictable litigation. Important as the provisions of Sections 7 and 9 of the ESA are, these regulatory mechanisms are at best, blunt, cumbersome, litigious and relatively random tools for regulation of GHG emissions. Sections 7 and 9 were arguably not designed with the intent to address complex global phenomena, such as climate change.

Moreover, the creation of precedent intended to extend the ESA to climate change regulation could open the listing process up to the point that the already-strained existing program is broken. The listing of the polar bear as threatened represents the first ESA listing decision that is not supported by a demonstrated, immediate risk to the species due to precipitous declines in and/or low abundance. To the contrary, the polar bear was listed despite scientific consensus that polar bears as a species currently occupy the entire range of their historical habitat in healthy numbers. In listing the polar bear, FWS essentially filled this evidentiary gap with (i) model projections of climate change in the arctic extending out for 45 years and (ii) evidence of recent declines in fitness in the two southern-most polar bear stocks.

Looking forward from the polar bear listing, the next logical step is the listing of other arctic species co-located with polar bears, and thus subject to the accepted projections of climate change, but otherwise lacking in any data indicating a current decline in abundance, fitness or distribution. Indeed, this is precisely the logic underlying CBD's pending proposals to list Pacific walrus and several arctic seal species.[60] If ESA listings may be based entirely on projections of existing trends extended out for decades, without current evidence of a decline in, or low abundance, the proverbial floodgates are open to the listing of nearly anything and everything based upon modeling of local, regional, national or global trends. The precedential effect of the polar bear listing could be particularly tenuous given that the listing decision is based largely upon modeled projections to changes in a species' *habitat*, from which future declines in abundance are *assumed*. The inherent ambiguity and unpredictability associated with such an exercise create the risk that ESA-based decisions will increasingly be made to manage perceived, but uncertain, risks, and not upon current observations and hard data.

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[60] *See supra* n.38.

2. Causation

In listing the polar bear as threatened, the Secretary of Interior stated unequivocally that the ESA is ill-equipped to regulate GHG emissions and that, indeed, FWS would not do so:[61]

> While the legal standards under the ESA compel me to list the polar bear as threatened, I want to make clear that this listing will not stop global climate change or prevent any sea ice from melting. Any real solution requires action by all major economies for it to be effective. That is why I am taking administrative and regulatory action to make certain the ESA isn't abused to make global warming policies.
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> . . . .
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> Listing the polar bear as threatened can reduce avoidable losses of polar bears. But it should not open the door to use of the ESA to regulate greenhouse gas emissions from automobiles, power plants, and other sources. That would be a wholly inappropriate use of the ESA law. The ESA is not the right tool to set U.S. climate policy.

The means adopted by Secretary Kempthorne to limit application of the ESA to GHG emissions is primarily premised upon a lack of causation between GHG emissions from any source or at any location, and climate change effects resulting in the take of a listed species.

FWS's listing decision, interim 4(d) rule, final 4(d) rule and ESA Section 7 regulation amendments all state in similar terms that "[t]he best scientific information available . . . has not established a causal connection between specific sources and locations of emissions to specific impacts posed to polar bears or their habitats."[62] This scientific finding is supported by the conclusions of the U.S. Geological Survey (USGS), which, at the request of FWS, examined the results of the best available data and analyses addressing carbon loading from specific sources and related biological responses. In summarizing its review, USGS Director Myers stated that "[t]hese results indicate that current science and models cannot link individual actions that contribute to atmospheric carbon levels to specific responses of species, including polar bears."[63]

FWS expressly applied this line of reasoning in the polar bear listing decision to confirm that GHG emissions from oil and gas exploration and production cannot be linked to climate change effects on polar bear or other listed species:[64]

> The best scientific data available to the Service today does not provide the degree of precision needed to draw a causal connection between the oil produced at a

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[61] Press Release, "Secretary Kempthorne Announces Decision to Protect Polar Bears under Endangered Species Act," U.S. Fish and Wildlife Service (May 14, 2008), *available at* http://www.fws.gov/news/NewsReleases.

[62] 73 Fed. Reg. at 28299.

[63] Memorandum from Mark D. Myers to Director, Fish and Wildlife Service, "The Challenges of Linking Carbon Emissions, Atmospheric Greenhouse Gas Concentrations, Global Warming, and Consequential Impacts," (May 14, 2008), *available at* http://www.fws.gov/endangered/.

[64] 73 Fed. Reg. at 28300.

> particular drilling site, the GHG emissions that may eventually result from the consumption of the refined petroleum product, and a particular impact to a polar bear or its habitat. At present there is a lack of scientific or technical knowledge to determine a relationship between an oil and gas leasing, development, or production activity and the effects of the ultimate consumption of petroleum products (GHG emissions). There are discernable limits to the establishment of a causal connection, such as uncertainties regarding the productive yield from an oil and gas field; whether any or all of such production will be refined for plastics or other products that will not be burned; what mix of vehicles or factories might use the product; and what mitigation measures would offset consumption. Furthermore, there is no traceable nexus between the ultimate consumption of the petroleum product and any particular effect to a polar bear or its habitat. In short, the emissions effects resulting from the consumption of petroleum . . . would not constitute an 'indirect effect' of any federal agency action to approve the development of that field.

At this stage of the polar bear litigation proceedings, it remains to be determined what data, analyses and opinion may support these conclusions. It also remains to be seen whether federal courts will validate FWS's broad no causation determination, or whether, as CBD will presumably argue, such determinations can only be made on a case-by-case, consultation-by-consultation, lawsuit-by-lawsuit, basis.[65]

E. The Path Forward - Implications of, and Lessons from, the Polar Bear Listing and Litigation

This paper is being submitted one week before the inauguration of Barack Obama as President of the United States. Accordingly, as of this date, the implications of new statutory and regulatory initiatives under the Obama Administration to regulate GHG emissions are not known. Moreover, although the polar bear listing decision, and related litigation by CBD and others, is now 7 months old, briefing to address the issues raised by the listing decision, the 4(d) rule and the amendments to the Services Section 7 consultation regulations, is months away. A decision on the merits of any aspect of these cases is unlikely for many months to come.

Nevertheless, the following implications and lessons may be gleaned from experiences to date in connection with the polar bear listing, the related regulatory decisions of FWS, and the still unfolding litigation surrounding these decisions:

1. Climate Change policy and GHG emissions regulation should be, and likely will be, addressed directly through federal legislation. CBD's polar bear listing petition, and the related media attention and administrative processes, have played an important role in bringing about this result.

2. As valuable and important a regulatory tool as the ESA may be, it was not designed by Congress to address global climate change, and it is poorly suited to such a purpose. If advocacy groups continue to press climate change and GHG emissions policy through the

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[65] For a full detailing of FWS's legal analysis, see the U.S. Department of Interior, Solicitor's Opinion M-37017, "Guidance on the Applicability of the Endangered Species Act's Consultation Requirements to Proposed Actions Involving the Emission of Greenhouse Gases," (October 3, 2008), *available at* http://www.doi.gov/solicitor/opinions/M-37017.pdf.

use of Section 7 and Section 9 processes, as surely they will, the risks of abuse, and ultimately amendment of the ESA, are great.

3. The ESA was intended by Congress, and has been consistently interpreted by federal courts, to mandate action. Viewed in this context, the statements of Secretary Kempthorne in listing the polar bear, which, on the one hand, assert that the ESA compels a listing of the polar bear due to the threat posed to its habitat by projections of climate change, and on the other hand, assert that the listing will have no impact on climate change, must be viewed with great caution. The history of judicial interpretation of the ESA strongly suggests that federal courts will be loathe to conclude that Congress intended to adopt a statutory scheme that compels the listing of the polar bear, but denies the federal government the authority to redress the underlying threats.

4. If the precedent established in listing the polar bear in advance of any observed significant decline in abundance or distribution is sustained and extended, the floodgates to similar listings will open. If this occurs, the conservation benefits the ESA was intended to serve will likely become overshadowed by the politics, administrative juggernaut, and pervasive litigation associated with climate change policy and regulation. The listing power of the ESA will become diluted as countless species gain eligibility for listing due to their potential susceptibility to changes that are projected to occur as a result of global warming. This will serve to further polarize the already significantly different and varied viewpoints on the ESA and its goals, which will inevitably lead to a serious push for amendment of the ESA.

5. CBD and other conservation advocacy groups have been substantially more strategic, more nimble and more organized than industry or government with respect to application of the ESA, particularly regarding the polar bear listing and climate change. This continues to be the case even after the polar bear listing. CBD's concerted efforts in the ESA and climate change arena have allowed CBD to dictate the agenda and the issues, forcing the government and industry to consistently take reactive and defensive positions.

6. Engaging in scientific studies and publishing the resulting data and conclusions regarding impacts to and observations of wildlife effects is a critical, time-consuming step that is essential to development of a supportive administrative record. With the rise in prominence and acceptance of modeling, as used in the polar bear listing decision, the absence of "real" data documenting adverse impacts may be cold comfort to project proponents if scientifically-accepted modeling techniques can be used to project potential future impacts. The outcome of the polar bear litigation will play a large role in determining the future role that modeling will play in listing decisions, Section 7 consultations and other regulatory determinations under the ESA.

7. The ESA is among the most analytically complex environmental statutes. CBD has developed a respected expertise in the ESA and used that expertise to advance its agenda, the goals of which entail significant and long-term consequences for public policy, development and industry. The issues surrounding implementation of the ESA will only become more complex and, with the substantial momentum gained over the past few years, CBD and others will continue to advance ESA-based agendas. Consequently, to effectively compete within this new framework, industry needs to be more organized and coordinated, think longer-term, act with greater nimbleness, and look for the broader strategic implications of seemingly distant or unrelated actions (e.g., the importance of the polar bear listing to industries and activities in the Lower 48).