

*Via Certified and Electronic Mail*

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**Re: Discovery of *Gersemia rubiformis* in Shell drilling site triggers requirement for supplemental NEPA analysis**

Greenpeace scientists recently identified high densities of the soft coral *Gersemia rubiformis* in the Chukchi Sea where Shell is slated to begin exploration drilling this summer.<sup>1</sup> Although a Shell-funded study from 2008 detected these corals at Shell's "Burger" prospect, Blanchard et al. (2010), the Interior Department never considered the presence of the corals in approving Shell's exploration program or the lease sale behind it. The Greenpeace and Blanchard et al. studies both observed coral abundance that was on par or greater than most coral rich areas of the world (Miller et al. 2012). This significant new information triggers Interior's duty under the National Environmental Policy Act (NEPA) to supplement its environmental analysis of the impacts of Shell's drilling plans in the Chukchi Sea.

**The National Environmental Policy Act (NEPA)**

NEPA requires federal agencies to contemplate the environmental impacts of their actions before committing to a course of action. *Inland Empire Pub. Lands v. United States Forest Serv.*, 88

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<sup>1</sup> See Press Release, Abundant Corals Discovered at Shell's Chukchi drill site (July 30, 2012), available at: <http://www.greenpeace.org/usa/en/media-center/news-releases/Abundant-corals-discovered-at-Shells-Chukchi-drill-site/>.

F.3d 754, 758 (9th Cir. 1996) (finding that NEPA is concerned with the process of disclosure, not any particular result). NEPA “ensures that the agency . . . will have available, and will carefully consider, detailed information concerning significant environmental impacts; it also guarantees that the relevant information will be made available to the larger [public] audience.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349, 104 L. Ed. 2d 351, 109 S. Ct. 1835 (1989); *Inland Empire*, 88 F.3d at 758. Therefore, NEPA requires federal agencies to include an environmental impact statement (EIS) “in every recommendation or report on . . . major Federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(C). An EIS *must* be prepared if “substantial questions are raised as to whether a project . . . may cause significant degradation of some human environmental factor.” *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1332 (9th Cir. 1992) (citation omitted); *Sierra Club v. United States Forest Serv.*, 843 F.2d 1190, 1193 (9th Cir. 1988).

Under NEPA, agencies must not only undertake an EIS prior to taking federal action, but they must also undertake a supplemental EIS whenever: (i) the agency makes substantial changes in the proposed action that are relevant to environmental concerns; or (ii) there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts. 40 C.F.R. § 1502.9(c)(1).

Here, the initial major federal action was Chukchi Lease Sale 193, for which Interior produced an EIS in 2007 (MMS 2007) and, pursuant to court order, a supplemental EIS in 2011 (BOEM 2011(a)). Neither document discusses the presence of *Gersemia rubiformis* or any other corals in the lease sale area. In 2011 Interior produced an environmental analysis (EA) that tiered to the Lease Sale 193 EIS and SEIS and purported to analyze the environmental impacts of Shell’s proposed Chukchi Sea exploration plan (BOEM 2011(b)). This document also fails to mention or discuss the presence and importance of *Gersemia rubiformis* in the exploration plan area.

The discovery of dense concentrations of *Gersemia rubiformis* in Shell’s proposed drilling location qualifies as “significant new circumstances or information” that triggers supplemental NEPA analysis. *See, e.g., Native Ecosystems Council v. Tidwell*, 599 F.3d 926, 935, 937-38 (9th Cir. 2010) (revelation of nesting habitat in project area, discovered after Forest Service’s Environmental Assessment stated that there were no known nesting grounds in area, triggered supplemental NEPA analysis). Interior therefore should not issue Shell’s final permits to drill until it has considered this new information and incorporated it into a supplemental NEPA document. The significance of this coral discovery is discussed in more detail below.

### **Cold Water Corals**

Although there has been little research on corals in the Chukchi Sea specifically, information regarding cold water corals elsewhere in Alaska and the world demonstrates their significance to ocean ecosystems. Cold water corals provide a three-dimensional habitat on the often barren sea floor, which attracts fish and other species to areas of cold water coral, making these coral a critical part of the benthic ecosystem (Krieger 1993, Yoklavich et al. 2000, Heifetz et al. 2005, Miller et al. 2012). Impacts to the Arctic ecosystem from the removal of cold water corals could affect a variety of species, from marine invertebrates and fish to seabirds and marine mammals. 2012).

Cold water corals comprise important habitat for adult fishes, crustaceans, sea stars, sea anemones, and sponges because they provide a high relief habitat that serves to protect these species from predators and shelters them from the strong currents that often occur in these areas (Krieger and Wing 2002). The gaps between coral branches or fans provide shelter and refuge for eggs, larvae, and juveniles of shrimp, crabs and fishes, and for many adult species (Krieger and Wing 2002, Reed et al. 2006). The branches of *Gersemia rubiformis* are frequently used as habitat by juvenile basket stars, which are an important part of the benthic community of the Chukchi Sea. Filter feeders use cold water corals as an elevated feeding platform for raising them into the currents above the seafloor where more food is available, and a variety of animals forage in cold water coral areas (Buhl-Mortensen and Mortensen 2005, Krieger and Wing 2002, Parrish et al. 2002).

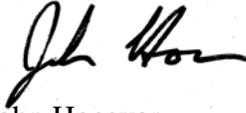
Specifics of the functional relationships among coral, invertebrate and fish species are still relatively unknown. It is clear, however, that fish and invertebrates utilize cold water corals preferentially to other benthic habitats. Thus, damage or removal of cold water coral, or habitat loss and degradation, may impact not just the affected coral species, but the entire marine ecosystem in which the corals reside (Aydin et al. 2007). As a keystone species, cold water corals may play an integral role in maintaining the structure and diversity of an ecosystem.

Not only are corals significant to the ecosystem, they are also extremely vulnerable to disturbance. Re-colonization and recovery of coral communities where corals have been killed, broken, damaged and overturned is on the order of multiple decades to centuries at best, and may not occur at all due to the corals' unique habitat requirements, structural fragility, slow growth rates, reproductive limitations, and extended life histories (Althaus 2009, Hourigan et al. 2009, Williams et al. 2010). Corals may live hundreds to thousands of years (Andrews et al. 2009, Roark et al. 2009). They are not adapted to disturbance, and have little genetic variation on which to fall back for re-colonization or recovery of disturbed areas (Hofmann et al. 2010, Miller et al. 2011). Any disturbance created by Shell's drilling activities will have long-term, if not permanent, impacts on *Gersemia rubiformis*.

Normal oil and gas exploration activities can adversely impact cold water coral habitats through physical placement of structures such as anchors, or the discharge of drill cuttings, drilling fluids and chemicals (Olsgard and Gray 1995). Studies have found that exposure to drill cuttings and fluids can have a variety of impacts, including alteration of feeding behavior or even death of the coral colony (Rogers 1999).

Given the significance of corals such as *Gersemia rubiformis* to the Chukchi Sea ecosystem, as well as the corals' extreme vulnerability to disturbance, Interior must consider the impacts of Shell's actions on these corals before allowing Shell to proceed with its Chukchi Sea exploration activities. Shell should not be permitted to undertake any activities in the Chukchi Sea until Interior has undertaken supplemental analysis under NEPA.

Sincerely,



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