June 19, 2015

Via U.S. and Electronic Mail

Dennis J. McLerran
Regional Administrator
U.S. Environmental Protection Agency, Region 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140
mclerran.dennis@epa.gov

Re: John M. Asplund Wastewater Treatment Facility Application for 301(h) Waiver

Dear Mr. McLerran:

On behalf of the Natural Resources Defense Council (NRDC), and its 2.4 million members and activists, we submit the following comments to the U.S. Environmental Protection Agency (EPA) urging the agency to deny the 301(h) waiver application submitted by the John M. Asplund Wastewater Treatment Facility (Asplund Sewage Plant) under the Clean Water Act. We also urge EPA to require the Asplund Sewage Plant to upgrade to full secondary treatment. As described more fully in the enclosed comments, we believe the discharge of primary effluent from the Asplund Sewage Plant poses an unacceptable risk to the survival of critically endangered Cook Inlet beluga whales.

Since EPA first issued the Asplund Sewage Plant its 301(h) waiver in 1985, the population of Cook Inlet beluga whales has plummeted from roughly 1,300 to just 340. And since EPA issued the plant's last 301(h) waiver in 2000, the National Marine Fisheries Service (NMFS) listed Cook Inlet beluga whales as endangered and designated critical habitat under the Endangered Species Act. Despite these protections, the population of Cook Inlet belugas has continued to decline toward extinction. Just last month, NMFS listed Cook Inlet belugas as one of eight species most at risk of extinction in the near future. Cook Inlet belugas are now part of NMFS's "Species in the Spotlight: Survive to Thrive" initiative, a concerted agency-wide effort to spotlight and save highly at-risk species. The population's perilous state – coupled with NMFS's listing and critical habitat designation under the Endangered Species Act – provide EPA more than enough reasons to deny the Asplund Sewage Plant's 301(h) waiver application.

In addition, EPA should deny the Asplund Sewage Plant's 301(h) waiver application because the plant cannot meet the requirements under the Clean Water Act. First, EPA cannot authorize the discharge of pollutants under a 301(h) waiver into saline estuarine waters that do not support a balanced indigenous population of shellfish, fish, and wildlife. In Cook Inlet, no such balanced indigenous population exists. Second, the Clean Water Act prohibits discharge under a 301(h) waiver that interferes with the attainment of water quality for the protection of a balanced indigenous population of beluga whales. Finally, the Asplund Sewage Plant has not consistently complied with the water quality standards set forth in its permit.

Cook Inlet beluga whales are teetering on the edge of extinction. EPA has the opportunity to help this endangered population toward recovery by denying the Asplund Sewage Plant's 301(h) waiver and modifying the terms of the permit to require secondary treatment. The reissuance of a 301(h) waiver here would violate not only the Clean Water Act and Endangered Species Act, but also the Marine Mammal Protection Act and state and federal antidegradation requirements. We therefore urge the agency to take action immediately.

We would welcome the opportunity to discuss this important issue with you at any time. Please do not hesitate to contact us at 310-434-2300 or tkiekowheimer@nrdc.org. Thank you for your attention to this urgent matter.

Very truly yours,

Taryn Kiekow Heimer
Senior Policy Analyst

Giulia Good Stefani
Staff Attorney

CC: Jamey Stoddard, stoddard.jamey@epa.gov

Comments on Behalf of the Natural Resources Defense Council on the John M. Asplund Wastewater Treatment Facility 301(h) Waiver Application

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June 19, 2015

TARYN KIEKOW HEIMER
GIULIA GOOD STEFANI

Attorneys for
NATURAL RESOURCES DEFENSE COUNCIL
1314 Second Street
Santa Monica, CA 90401
(310) 434-2300

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I. Introduction

On behalf of the Natural Resources Defense Council (NRDC) and our 2.4 million members and activists, we submit the following letter respectfully urging the Environmental Protection Agency (EPA) to deny the 301(h) waiver application submitted by the John M. Asplund Wastewater Treatment Facility (Asplund Sewage Plant or Sewage Plant). In addition, we urge EPA to act quickly to require the Asplund Sewage Plant to upgrade to full secondary treatment as soon as possible.

In the past decade, 301(h) waivers, or modified National Pollutant Discharge Elimination System (NPDES) permits waiving secondary treatment requirements for wastewater treatment plants, have become increasingly rare in the United States,[1] and with good reason. Increases in scientific research and monitoring have demonstrated that the discharge of partially treated wastewater degrades receiving waters and poses risks to public health and the marine ecosystem. Providing exceptions to basic national treatment standards is inconsistent with environmental protection, public health, and efforts to protect coastal-dependent economies.

Since receiving its initial 301(h) waiver in 1985, the Asplund Sewage Plant has operated under a lawful permit – with occasional violations – yet it continues to discharge effluent treated to standards below those employed at nearly every other plant in the country. The Asplund Sewage Plant discharges on average 27 million gallons of primary treated effluent per day.[2] In fact, the Asplund Sewage Plant discharge is twice as large as any other municipal facility permitted by EPA Region X.[3]

The discharge of primary treated effluent into Cook Inlet threatens the very survival of endangered Cook Inlet beluga whales. The situation of the belugas is dire. Based on the current diminished population size of the Cook Inlet belugas and its continued slow decline, the National Marine Fisheries Service (NMFS) has estimated that there is a twenty-six percent chance that the belugas will be extinct in one hundred years and a seventy percent chance of extinction in three hundred years.[4] The Cook Inlet beluga whale was listed as an endangered species in 2008,[5] and Cook Inlet was listed as critical habitat for the belugas in 2011.[6] Despite these increased protections, the beluga population has not rebounded and continues to face a barrage of threats to its habitat and

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[1] See *infra* Part III.
[2] John M. Asplund Water Pollution Control Facility at Point Woronzof, *Monitoring Program Annual Report: January-December 2014*, ANCHORAGE WATER & WASTEWATER UTIL. 29 (Feb. 2015) (on file with NRDC) [hereinafter Asplund Sewage Plant 2014 Annual Report].
[3] U.S. EPA, Response to Comments, Draft NPDES Permit No. AK-002255-1 (June 2000) (on file with NRDC).
[4] Endangered Status for the Cook Inlet Beluga Whale, 73 Fed. Reg. 62,919, 62,927 (Oct. 22, 2008).
[5] 50 C.F.R. § 224.101 (2015).
[6] *Id.* § 226.220.

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health, including pollution from the Asplund Sewage Plant. If we do not act now, we may lose this population of beluga whales forever.

And yet, the Asplund Sewage Plant's 301(h) waiver remains woefully out of date. EPA has administratively continued the Sewage Plant's 301(h) waiver since 2005,[7] twice as long as the permit was effective. This is in direct contravention of the requirement under the Clean Water Act that a NPDES permit be issued for a fixed term not exceeding five years.[8]

The Administrative Procedure Act (APA) requires agencies to act on applications for a license "with due regard for the rights and privileges of all interested parties or adversely affected persons and within a reasonable time."[9] The delay in issuing a decision on the Asplund Sewage Plant's 301(h) waiver is not reasonable, and, in the meantime, the discharge of partially treated wastewater into Cook Inlet has continued unabated, degrading the water and endangering the health of the marine wildlife, including Cook Inlet beluga whales. In light of changes in the legal status of the belugas since the permit was last issued – and the belugas' continued decline – decisions regarding the Asplund Sewage Plant's 301(h) waiver should be a top priority for the agency.

NMFS released a much-anticipated Draft Recovery Plan for the Cook Inlet beluga whale last month. In it, NMFS acknowledged that pollution is a concern for Cook Inlet belugas. The agency recommended "upgrading the Asplund Wastewater Treatment Facility, Alaska's largest wastewater treatment facility, from a primary to a secondary treatment facility" in order to "make a notable difference in total pollutants released into Cook Inlet, particularly into Cook Inlet beluga whale critical habitat." NMFS also noted that the "decision of whether to upgrade this facility is currently under review by the [EPA]."[10]

EPA should deny the Asplund Sewage Plant's 301(h) waiver application for the following reasons:

- First, the Clean Water Act prohibits discharge of any pollutants under a 301(h) waiver into saline estuarine waters like Cook Inlet that do not support a balanced indigenous population of shellfish, fish, and wildlife.[11]
- Second, the primary treated effluent discharge from the plant will interfere with the attainment of water quality for the protection of a balanced

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[7] The Asplund Sewage Plant's 301(h)-modified permit has been administratively continued since 2005. 40 C.F.R. § 122.6 (2015); Letter from Michael J. Lidgard, Manager, NPDES Permits Unit, to Mark Premo, Gen. Manager, Municipality of Anchorage Water and Wastewater Utility (May 11, 2009) (on file with NRDC).
[8] 33 U.S.C. § 1342(b)(1)(B) (2012).
[9] 5 U.S.C. § 558(c) (2012).
[10] Nat'l Marine Fisheries Serv., *Draft Recovery Plan for the Cook Inlet Beluga Whale (Delphinapterus leucas)* (May 2015), https://alaskafisheries.noaa.gov/protectedresources/whales/beluga/recovery/draft-cibrecoveryplan051515.pdf (last visited June 5, 2015) [hereinafter NMFS Draft Recovery Plan].
[11] 33 U.S.C. § 1311(h) (2012); 40 C.F.R. § 125.59(b)(4) (2015).

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indigenous population of beluga whales as required under the Clean Water Act.[12]

- Third, the Asplund Sewage Plant has not achieved consistent compliance with water quality standards in accordance with its permit.[13]
- Fourth, the reissuance of the 301(h) waiver would violate the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), and other state and federal antidegradation requirements.

We urge EPA to act swiftly to deny the Asplund Sewage Plant's 301(h) waiver and to require the plant to upgrade its water treatment facility as soon as possible. EPA has unreasonably delayed in issuing a decision on this permit, despite the fact that in the years since the waiver was administratively continued the plant's receiving waters have been designated as critical habitat of a species facing extinction. Continued delay would further endanger the health of Cook Inlet belugas and violate the APA. Furthermore, EPA cannot evade its duties for a formal consultation under Section 7 of the ESA by delaying action on the permit. While EPA retains discretion to change the conditions of the permit, its administrative continuance of the permit constitutes agency action, triggering formal consultation requirements under the ESA. Finally, given the decade of delay and the importance of protecting the belugas, the Asplund Sewage Plant should be required to upgrade their facilities as quickly as possible.

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[12] 33 U.S.C. § 1311(h)(2) (2012).
[13] *Id.* § 1311(h)(1) (2012).

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II. Factual Background

A. Description of Cook Inlet Bay and Knik Arm

Located in south-central Alaska, Cook Inlet is a semi-enclosed, "partially mixed"[14] tidal estuary stretching 180 miles from the Gulf of Alaska to the northeastern reaches of Knik and Turnagain Arms near Anchorage. The inlet covers approximately 7,700 square miles with 520 miles of shoreline.

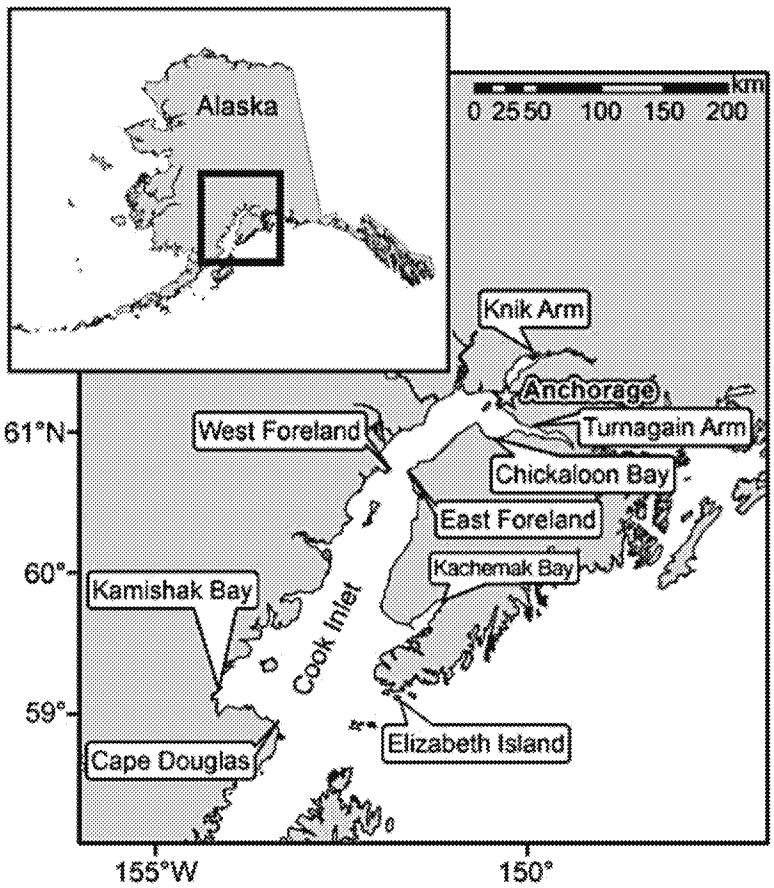

Figure 1. Cook Inlet area located in south-central Alaska.

Cook Inlet contains a variety of habitat types that are home to an abundance of plant and animal wildlife, including a wide variety of fresh and saltwater fishes, hundreds of species of birds, and several species of marine mammals.[15] The river systems that feed Cook Inlet support five species of Pacific salmon as well as Dolly Varden, Arctic char, rainbow trout, and whitefish.[16] The Cook Inlet ecoregion includes habitat for a number of

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[14] Lie-Yauw Oey et al., *Baroclinic Tidal Flows and Inundation Processes in Cook Inlet, Alaska: Numerical Modeling and Satellite Observations*, 57 OCEAN DYNAMICS 205, 208 (2007).
[15] Alaska Dept. of Fish & Game, *Our Wealth Maintained: A Strategy for Conserving Alaska's Diverse Wildlife and Fish Resources* 59-60 (Apr. 2006) http://www.adfg.alaska.gov/static/species/wildlife_action_plan/cwcs_full_document.pdf.
[16] *Id.* at 60.

wildlife populations that have been identified as threatened or endangered under the ESA including Stellar sea lions, fin whales, humpback whales, and Cook Inlet beluga whales.[17] Additionally, harbor seals and sea otters have been listed as "species of greatest conservation need" by the Alaska Department of Fish and Game.[18]

The most important habitat in Cook Inlet for endangered belugas includes the uniquely rich waters of Knik Arm. The shallow tidal flats, river mouths, and estuarine waters of the upper Cook Inlet provide important foraging and calving habitat for the belugas. The rivers that supply Knik Arm provide a dense feast of salmon and eulachon for beluga foraging during the spring, summer, and fall,[19] and "the glacial fjords provide escape terrain from Orca whales," protecting the Cook Inlet belugas from their only natural predator.[20] These waters, where the whales come for nourishment and protection, are also thought to be important calving and nursery areas.[21] Newborn belugas benefit from the warmer water temperatures, and numerous pairs of cows and calves have been surveyed swimming throughout the range of Knik Arm during the summer and fall months.[22] Indeed, the belugas rely intensively on this habitat. Research demonstrates that Cook Inlet belugas can be found in Knik Arm year-round, "often entering and leaving the Arm on a daily basis."[23] In their beluga whale Conservation Plan, NMFS found that the high concentration of beluga whales in upper Cook Inlet, including Knik Arm, "predisposes them to harm" from anthropogenic threats.[24]

B. Sewage Plant Description

The Asplund Sewage Plant is located in Anchorage, Alaska and discharges into the Knik Arm of Cook Inlet.[25] EPA first issued a NPDES permit for the Asplund Sewage Plant on January 20, 1975. The original permit required secondary treatment of the

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[17] Nat'l Oceanic & Atmospheric Admin., *Endangered, Threatened, Proposed, Candidate, and Deleted Species in Alaska, Species*, NAT'L MARINE FISHERIES SERV. 2 (Feb. 18, 2014), https://alaskafisheries.noaa.gov/protectedresources/esa/ak_specieslst.pdf.
[18] Alaska Nat'l Heritage Program, *Species Tracking List*, UNIV. OF ALASKA ANCHORAGE (Mar. 18, 2013) http://aknhp.uaa.alaska.edu/wp-content/uploads/2013/02/All_Tracking_Lists_18March2013.pdf.
[19] Nat'l Marine Fisheries Serv., *Conservation Plan for the Cook Inlet Beluga Whale (*Delphinapterus leucas*)* 26 (Oct. 2008), http://www.fisheries.noaa.gov/pr/pdfs/species/belugawhale_conservationplan.pdf [hereinafter NMFS Conservation Plan].
[20] Nat'l Ocean & Atmospheric Admin. Fisheries Serv., *Final RIR/4(b)(2) Preparatory Assessment/FRFA for the Critical Habitat Designation of Cook Inlet Beluga Whale* 2-1 (Aug. 11, 2010), https://alaskafisheries.noaa.gov/protectedresources/whales/beluga/chabitat/cib_economicanalysis0810.pdf.
[21] NMFS Conservation Plan, *supra* note 19, at 23.
[22] *Id.* at 23.
[23] *Id.* at 26.
[24] *Id.*
[25] Envtl. Prot. Agency, *EPA Fact Sheet: NPDES Permit Number: AK-02255-1*, at 6, http://yosemite.epa.gov/r10/water.nsf/95537302e2c56cea8825688200708c9a/16dcdebf18bc8ee28825742b006cee6f/$FILE/ATTMP2OQ/AK0022551%20FS.pdf (last visited Apr. 7, 2015) [hereinafter EPA Fact Sheet].

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effluent, but the plant was unable to meet these requirements. On October 16, 1985, EPA issued the plant a 301(h) waiver.[26] Since that time, the Asplund Sewage Plant has operated under a modified NPDES permit that allows it to discharge primary treated effluent. EPA reissued the permit once, effective on August 2, 2000. This permit expired on August 2, 2005 and has been administratively continued since that time.[27]

The Asplund Sewage Plant is part of the Anchorage Water & Wastewater Utility (AWWU). The plant was constructed in 1972, with an original capacity of 28 million gallons per day (mgd). Between 1985 and 1988, the plant's capacity was expanded to 58 mgd, which remains its present value.[28] In 2014, the plant's average discharge was 26.85 mgd.[29] The AWWU estimates that the Asplund Sewage Plant serves approximately 223,000 individuals in the Anchorage Bowl region.[30] This population is projected to increase to approximately 255,000 by 2030.[31] Thus, over the next fifteen years, the Asplund Sewage Plant will be treating wastewater from twenty thousand additional people. Currently, Asplund Sewage Plant is the second largest wastewater treatment plant in the country still operating under a 301(h) waiver.[32]

The Asplund Sewage Plant treats wastewater from throughout the Anchorage Bowl and receives sludge from two smaller wastewater treatment plants nearby, Eagle River and Girdwood.[33] Its influent is primarily domestic, with a certain amount of industrial influent as well.[34] The Asplund Sewage Plant provides only primary wastewater treatment procedures, including screening, grit removal, sedimentation, skimming, and chlorination. Secondary treatment procedures – which the Asplund Sewage Plant does not provide – include more sophisticated biological procedures such as attached growth processes or suspended growth processes, which remove a higher amount of the organic matter in wastewater.[35] Under a secondary treatment NPDES

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[26] *Id.* at 7.
[27] 40 C.F.R. § 122.6 (2015); Letter from Michael J. Lidgard, Manager, NPDES Permits Unit, to Mark Premo, Gen. Manager, Municipality of Anchorage Water and Wastewater Utility, *supra* note 7.
[28] Anchorage Water & Wastewater Util., *2014 Anchorage Wastewater Master Plan*, at 36, (Dec. 2014), https://www.awwu.biz/website/MasterPlans/MasterPlansFrameWasteWater.htm [hereinafter AWWU Master Plan].
[29] Asplund Sewage Plant 2014 Annual Report, *supra* note 2, at 29.
[30] AWWU Master Plan, *supra* note 28, at 20, 36.
[31] *Id.* at 26.
[32] See *infra* Table 1.
[33] *Id.* at 36.
[34] CH2MHILL, *Evaluation of the Effects of Discharge Permit Reauthorization on Endangered Species: Final Draft*, at 1-5, (Feb. 1, 2011), https://alaskafisheries.noaa.gov/protectedresources/whales/beluga/development/awwu/dischargepermitesa2011.pdf. Twelve facilities discharge to the plant under the supervision of its Pretreatment and Non-Industrial Source Control Program, including three fish processors, three landfills, and two steam electric power generators. *See 2014 AWWU Annual Pretreatment Report and Non-Industrial Source Control Program,* ANCHORAGE WATER & WASTEWATER UTIL. (Feb. 2015) (on file with NRDC).
[35] *Primer for Municipal Wasterwater Treatment Systems*, ENVTL. PROT. AGENCY 11 (Sept. 2004), http://water.epa.gov/aboutow/owm/upload/2005_08_19_primer.pdf.

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permit, the Asplund Sewage Plant would be required to remove a monthly average of 85 percent of biological oxygen demand constituents (BOD) and total suspended solids (TSS).[36] However, its current procedures remove only 42.8 percent of BOD and 78 percent of TSS.[37] According to the Asplund Sewage Plant's 2014 Monitoring Program Annual Report, the effluent contains many toxic pollutants and pesticides. These include volatile and semi-volatile organics such as acetone, chloroform, and phenol; metals such as arsenic, lead, and mercury; and other toxic pollutants, such as cyanide.[38] The facility also processes sludge, most of which is incinerated and disposed of in a landfill.

Effluent is discharged through an eighty-four-inch diameter outfall into Cook Inlet. The outfall reaches 804 feet from shore and ends in a trifurcated diffuser, in water with a mean lower low water depth of 15 feet.[39] The plant discharges effluent directly into the Knik Arm, part of the highest priority critical habitat for the belugas because of its importance for foraging and calving.[40] The Asplund Sewage Plant's 301(h) waiver requires sediment and bioaccumulation monitoring in the fourth year after the effective date of the permit. However, the Asplund Sewage Plant has failed to perform any new sediment or bioaccumulation monitoring since 2004.[41] Thus, throughout the ten years that the permit has been administratively continued, pollutant-filled sediment from the Asplund Sewage Plant may have been accumulating in Cook Inlet unchecked and unreported.

C. The Endangered Cook Inlet Beluga Whale

1. Background and Population Decline

Known as the canaries of the sea for their distinctive vocalizations— and easily recognizable for their white color—belugas whales are usually found in shallow, coastal arctic and subarctic waters. The average lifespan of a beluga whale is thirty-five to fifty years. They are highly social creatures and typically migrate and interact together in groups of ten to several hundred, referred to as pods.[42] They have been observed to chase one another in play.[43] Beluga whales communicate with each other through an impressive repertoire of different sounds, including chirps, moos, clicks, and whistles. Calves, which are born gray and turn white around eight years of age, stay with their mothers for two to

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[36] 40 C.F.R. § 133.102 (2015).
[37] Asplund Sewage Plant 2014 Annual Report, *supra* note 2, at 101 (Feb. 2015).
[38] *Id.* at 32-34, tbl. 9.
[39] EPA Fact Sheet, *supra* note 25, at 13.
[40] NMFS Conservation Plan, *supra* note 19, at 23.
[41] Asplund Sewage Plant 2014 Annual Report, *supra* note 2, at i, 27.
[42] *Beluga Whale* (Delphinapterus leucas), NAT'L OCEANIC & ATMOSPHERIC ADMIN, http://www.nmfs.noaa.gov/pr/species/mammals/whales/beluga-whale.html (last updated Jan. 15, 2015).
[43] Becky L. Sjare & Thomas G. Smith, *The Relationship Between Behavioral Activity and Underwater Vocalizations of the White Whale,* Delphinapterus leucas, 64 CANADIAN J. ZOOLOGY 2824 (1986).

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three years while nursing. Belugas are opportunistic feeders, eating a wide variety of fish, bivalves, crustaceans, and other marine biota.[44]

The Cook Inlet beluga whale is the smallest population of beluga whales currently recognized in Alaska, and it is a genetically distinct and geographically isolated population that lives only in Cook Inlet.[45] In recent years, the population has plummeted from approximately 1,300 to just 340 whales.[46] NMFS has taken various actions over the past decade in an attempt to halt the decline, but the effort has not been successful thus far.

On May 31, 2000, NMFS listed the Cook Inlet beluga whale population as "depleted" under the MMPA.[47] NMFS believed that the population decline was due to the subsistence harvest, and that, by restricting the harvest, it could restore the population to healthy numbers.[48] However, even after NMFS's restrictions, the population continued to decline by an average of 1.45 percent per year from 1999 to 2008.[49] The 2014 stock assessment estimated the Cook Inlet beluga population as 340 whales, a 0.4 percent decline per year since 2004.[50]

In response to a 2006 petition by NRDC, the Center for Biological Diversity, and other groups, NMFS considered whether Cook Inlet beluga whales should be listed under the ESA. It conducted an expert status review and concluded that the whale had a twenty-six percent probability of extinction in one hundred years and a seventy percent probability of extinction in three hundred years.[51] Based on that finding and evidence that human development, including oil and gas exploration, pose a serious threat to the whale's survival, NMFS listed the Cook Inlet beluga whale as an endangered species in October 2008.[52]

NMFS also designated two areas of critical habitat for the whale. The designation includes 3,013 square miles of marine habitat in Cook Inlet that NMFS determined is

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[44] *Beluga Whale*, *supra* note 422.
[45] Designation of Critical Habitat for Cook Inlet Beluga Whale, 76 Fed. Reg. 20,180, 20,181 (Apr. 11, 2011).
[46] K.E.W. Shelden et al., *Aerial Surveys of Beluga Whales (*Delphinapterus leucas*) in Cook Inlet, Alaska, June 2014*, ALASKA FISH. SCI. CENT., NOAA, NMFS, at 36 (Mar. 2015) [hereinafter NMFS 2014 Stock Assessment].
[47] Designation of the Cook Inlet, Alaska, Stock of Beluga Whale as Depleted Under the Marine Mammal Protection Act (MMPA) and Response to Petitions, 64 Fed. Reg. 56,298 (Oct. 19, 1999).
[48] Endangered Status for the Cook Inlet Beluga Whale, 73 Fed. Reg. 62,919, 62,920 (Oct. 22, 2008).
[49] *Id.*
[50] NMFS 2014 Stock Assessment, *supra* note 466, at 36.
[51] *Id.* at 62,927.
[52] *Id.*

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biologically important to the conservation of this small, range-limited population.[53] Critical habitat area 1 is found in the northeast part of Cook Inlet, including Knik Arm, and is an area that the belugas use year round.[54] As previously stated, the belugas rely heavily on this area for foraging, calving, and protection from orcas.[55] Critical habitat area 2 is located south of critical habitat area 1,[56] and is utilized by the belugas during the fall and winter months for feeding.[57]

2. Threats to the Cook Inlet Beluga Whale Population

i. Wastewater Discharge

Pollution from wastewater discharge is one of the major threats to the Cook Inlet beluga whale population. Currently, the Asplund Sewage Plant is authorized to discharge primary treated effluent directly into the beluga whales' designated critical habitat, pumping millions of gallons into Cook Inlet every day. In designating critical habitat, NMFS determined that water quality was "essential to [the beluga whales'] conservation within both [critical habitat] areas 1 and 2."[58] In it Draft Recovery Plan, NMFS emphasized that if the Asplund Sewage Plant was required to upgrade "from a primary treatment facility to a secondary treatment facility[,] the overall pollution entering Cook Inlet could stabilize or decline in the future."[59]

Discharge from the Asplund Sewage Plant is a highly probable pathway through which pathogens enter Cook Inlet. A recent study found pathogenic bacteria, including *Cryptosporidium* and *Giardia*, in Cook Inlet. Norovirus was also detected.[60] In water and sediment testing, human host-associated markers were the most common fecal source found in Cook Inlet, followed by canine and bovine fecal sources.[61] In general studies of wastewater treatment, bacteria such as *Vibrio, Salmonella,* and *Shigella* have been detected at all stages of sewage treatment, even in chlorinated wastewater effluent, demonstrating their ability to resist wastewater treatment.[62]

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[53] Designation of Critical Habitat for Cook Inlet Beluga Whale, 76 Fed. Reg. 20,180, 20,180 (Apr. 11, 2011).
[54] *Id.* at 20,205.
[55] See Part II(A).
[56] Designation of Critical Habitat for Cook Inlet Beluga Whale, 76 Fed. Reg. at 20,205.
[57] NMFS Conservation Plan, *supra* note 199, at 28.
[58] Designation of Critical Habitat for Cook Inlet Beluga Whale,76 Fed. Reg. at 20,203.
[59] NMFS Draft Recovery Plan, *supra* note 10, at 81, 101.
[60] Stephanie A. Norman et al., *Fecal Pathogen Pollution: Sources and Patterns in Water and Sediment Samples from the Upper Cook Inlet, Alaska Ecosystem*, 15 ENVTL. SCI.: PROCESSES & IMPACTS 1041, 1045 (2012).
[61] *Id.* at 1046.
[62] URS Corp., *Pathogens Exposures for Cook Inlet Beluga Whales*, NAT'L MARINE FISHERIES SERV. 3-2 (May 2011) [hereinafter *Pathogens Exposures for Cook Inlet Beluga Whales*] (citing W.E.F., *Detection and Occurrence of Indicator Organisms and Pathogens*, 80 WATER ENVT. RES. (2008); J.R. Stewart et al., *The Coastal Environment and Human Health: Microbial Indicators, Pathogens, Sentinels and Reservoirs*, 7 ENVTL. HEALTH (7) Supplement 2, S3 (2008);

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Pollutant exposure and related diseases have been documented in Cook Inlet beluga whales. Polychlorinated biphenyls (PCBs) and chlorinated pesticides have been found in the blubber of Cook Inlet belugas.[63] Additionally, in a study of thirty-four Cook Inlet beluga whale carcasses, disease was found to be the primary cause of mortality in two cases and a contributing factor to mortality in twenty-five cases.[64] Of the Cook Inlet beluga carcasses that have been studied, many pathogenic species of bacteria have been found, which can cause "sepsis, mastitis, and other health effects."[65]

Bacterial diseases have been broadly documented in marine mammals, including beluga whales. *Vibrio* spp., which was found in Cook Inlet, has been documented as causing disease in marine mammals.[66] Other bacteria, such as *Salmonella*, have caused fatal gastroenteritis in beluga whales and other marine mammals.[67] Bacteria may also contribute to gastritis and gastric ulcers in cetaceans.[68]

Several factors predispose Cook Inlet beluga whales to suffer harm from pollution. Cook Inlet belugas tend to live in dense aggregations in small areas near the shore. "When microbial agents are released into the environment, a large proportion (40-65 percent depending on the microbial genera) may adhere to particulate matter that drops out of the water column and deposit[s] in the sediments."[69] Microorganisms have

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M. Dungeni et al., *Abundance of pathogenic bacteria and viral indicators in chlorinated effluents produced by four wastewater treatment plants in the Gauteng Province, South Africa* (2010), http://ajol.info/index.php/wsa/article/viewFile/61994/50044).

[63] Paul R. Becker et al., *Concentrations of Polychlorinated Biphenyls (PCB's), Chlorinated Pesticides, and Heavy Metals and Other Elements in Tissues of Belugas,* Delphinapterus leucas, *from Cook Inlet, Alaska*, 63 MARINE FISHERIES REV. 81 (2000); Paul R. Becker et al., *Persistent Chlorinated Compounds and Elements in Tissues of Cook Inlet Beluga Whales,* Delphinapterus leucas, *Banked by the Alaska Marine Mammal Tissue Archival Project*, NAT'L OCEAN AND ATMOSPHERIC ADMIN. (2000) [hereinafter *Alaska Marine Mammal Tissue Archival Project*].

[64] *Pathogens Exposures for Cook Inlet Beluga Whales*, *supra* note 62, at 2-1 (citing K.A. Burek & C. Goertz, *Morbidity and Mortality Trends in Stranded Cook Inlet Beluga Whales* (2010), http://www.fakr.noaa.gov/protectedresources/whales/beluga/workshop/presentations/21_burek_cib_strandings.pdf).

[65] *Id.* at 4-2.

[66] Norman et al., *supra* note 60, at 1050 (citing J. P. Schroeder et al., *An Infection by Vibrio alginolyticus in an Atlantic Bottlenose Dolphin Housed in an Open Ocean Pen*, 21 J. WILDLIFE DISEASE, 437-438 (1985)).

[67] *Bacterial Diseases of Marine Mammals*, THE MERCK VETERINARY MANUAL, http://www.merckmanuals.com/vet/exotic_and_laboratory_animals/marine_mammals/bacterial_diseases_of_marine_mammals.html (Last updated April, 2012).

[68] CRC HANDBOOK OF MARINE MAMMAL MEDICINE 327 (Leslie A. Dierauf & Frances M.D. Gulland, eds., 2001).

[69] *Pathogens Exposures for Cook Inlet Beluga Whales*, *supra* note 622, at 3-4 (citing L.H. Krometis et al., *Evaluation of a Filtration/Dispersion Method for Enumeration of Particle-associated Escherichia coli*. 28 J. ENV'T QUALITY 980-986 (2009); L.H. Krometis et al., *Intra-storm Variability in Microbial Partitioning and Microbial Loading Rates*. 41 WATER RES. 506-516 (2007); Water Env't Fed'n, *Detection and Occurrence of Indicator Organisms and*

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been shown to have higher rates of survival in sediments in coastal environments. Consequently, near-shore areas, such as Cook Inlet, may act as "reservoir[s]" for pathogens.[70] Cook Inlet beluga whales spend a significant amount of time in shallow bays and estuaries in critical habitat areas 1 and 2, which may "render exposure pathways to [Cook Inlet belugas] complete."[71] The belugas may be directly infected through contact with the sediments.[72]

Their status as apex predators also predisposes Cook Inlet belugas to biomagnification of toxins through the food chain, which can interfere with reproduction and resistance to disease.[73] Belugas are opportunistic feeders.[74] They have been historically situated at a relatively high trophic level, [75] feeding primarily upon fish (e.g., salmon, cod) and invertebrates, as well as "shrimp, mussels, snails, sandworms" and other bottom feeders.[76] Since belugas feed on a number of bottom-dwelling sea creatures the risk of biomagnification of toxins in their blubber is significant and warrants action to decrease the number of toxins entering Cook Inlet. Juvenile beluga whales in particular are known to consume smaller prey such as shrimp.[77] Thus, young Cook Inlet belugas may become infected with parasites through consumption of infected prey.[78]

Finally, chemicals from pharmaceuticals in wastewater may also threaten Cook Inlet belugas. In many states, the presence of chemicals and various pharmaceuticals have increased significantly in sewage discharge as the population grows. The population served by the Asplund Sewage Plant is projected to increase by 20,000 people over the next fifteen years,[79] and chemical exposure may have significant effects on the Cook Inlet beluga population due to their blubber accumulation. Lipophilic pollutants "will often accumulate and reside in the blubber with relatively little effect on the animal until the

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Pathogens, 80 WATER ENV'T RES. (2010); Water Env't Fed'n, *Detection and Occurrence of Indicator Organisms and Pathogens*, 80 WATER ENVT. RES. (2008)).

[70] *Id.* at 3-4.

[71] *Id.* at 4-1 (citing K. Goetz et al., *Habitat Use in a Marine Ecosystem: Beluga Whales Delphinapterus leucas in Cook Inlet, Alaska*, 330 MARINE ECOLOGY PROGRESS SERIES 247-256 (2007)).

[72] *Id.* at 4-1.

[73] Designation of Critical Habitat for Cook Inlet Beluga Whale, 76 Fed. Reg. 20,180, 20,203 (Apr. 11, 2011).

[74] *Beluga Whale*, *supra* note 42.

[75] D. Pauly et al., *Diet Composition and Trophic Levels of Marine Mammals*, 55 ICES J. MARINE SCIENCE 467, 470 (1998). Belugas are at a trophic level of 4.0, on a scale of marine mammals ranging from 3.2-4.6.

[76] *Beluga Whale*, *supra* note 422; CH2MHILL, *supra* note 344, at 5-11 (citing unpublished data by B Mahoney, NMFS, Anchorage, December 2009).

[77] *The Cook Inlet Beluga Whale, Its Life Cycle, and Potential Impacts from Five NPDES Dischargers*, ENVTL. PROT. AGENCY 5 (Feb. 2000) (citing R.J. Morris, *Status Report on Cook Inlet Beluga Whales (*Delphinapterus leucas*)*, NAT'L MARINE FISHERIES SERV. (1992)).

[78] R.C. Hobbs et al., *2008 Status Review and Extinction Risk Assessment of Cook Inlet Belugas (*Delphinapterus leucas*)*, ALASKA FISHERIES SCI. CENTER 39 (Apr. 2008), http://www.fisheries.noaa.gov/pr/pdfs/statusreviews/belugawhale_cookinlet.pdf.

[79] AWWU Master Plan, *supra* note 288, at 20, 26.

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animal is forced to use its lipid reserves during a period of hunger or lean food resources and reproduction/lactation for females."[80] The lipids are then metabolized, freeing the chemicals to come into contact with sensitive organs such as the liver and kidneys. When this happens, the beluga whale will "acutely receive a major dose of chemical[s]."[81]

ii. Other Threats

Other anthropogenic factors, in addition to sewage pollution, pose severe threats to Cook Inlet beluga whales. Construction and development projects, and the increased traffic they yield, disturb the belugas and their prey species and cause habitat loss. A number of port facilities are located in Cook Inlet. Key among them is the Port of Anchorage, which is situated along the lower Knik Arm in an area of heavy beluga use.[82] Currently, there are plans to modernize the Port of Anchorage, which will include building infrastructure for increased throughput and access for larger vessels.[83] Additionally, the Alaska Department of Transportation & Public Facilities is planning the construction of a 1.74-mile toll bridge over Knik Arm.[84] Climate change and commercial fisheries also have the potential to reduce the availability of beluga whale prey species.[85]

In addition to altering habitat and potentially displacing Cook Inlet beluga whales and their prey species, construction and development projects, and the increased vessel traffic they attract, are large sources of anthropogenic noise. Beluga whales use sound to navigate, communicate, and locate prey, so "[t]he effects of man-made noise on beluga whales . . . may be similar to our reduced visibilities when confronted with heavy fog or darkness."[86] NMFS recognized anthropogenic noise as a threat when it listed the Cook Inlet beluga whale as an endangered species, noting that "in-water activities which produce high levels of underwater noise" could result in a violation of Section 9 of the

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[80] Stephanie A. Norman, *Nonlethal Anthropogenic and Environmental Stressors in Cook Inlet Beluga Whales (Delphinapterus leucas)* 44 (2011), http://www.alaskafisheries.noaa.gov/protectedresources/whales/beluga/reports/sn_nonlethalstressors0911.pdf (citing D.R. Miller, *Effects in Arctic and Subarctic Systems*, *in* ECOTOXICOLOGY AND CLIMATE WITH SPECIAL REFERENCE TO HOT AND COLD CLIMATES, at 219-224, (P. Bourdeau et al., eds, 1989)).
[81] *Id.*
[82] NMFS Conservation Plan, *supra* note 199, at 55.
[83] *Modernization Project: Project Summary*, PORT OF ANCHORAGE, http://www.portofalaska.com/modernization-project.html (last visited Apr. 7, 2015).
[84] *Knik Arm Crossing*, KNIK ARM BRIDGE, http://knikarmbridge.com/ (last visited Apr. 7, 2015).
[85] Endangered Species Act Section 7 Consultation On the U.S. Environmental Protection Agency's Proposed Approval of the State of Alaska's Mixing Zone Regulation Section, of the State of Alaska Water Quality Standards, NAT'L MARINE FISHERIES SERV. 22-23, 34-35, (Dec. 20, 2010), https://alaskafisheries.noaa.gov/protectedresources/whales/beluga/development/mixingzones/biop1211.pdf [hereinafter Mixing Zone Report]. Fisheries within Knik Arm "are generally limited to salmonids," which form a large part of the Cook Inlet beluga whale diet. CH2MHILL, *supra* note 344, at 2-6.
[86] NMFS Conservation Plan, *supra* note 199, at 58.

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ESA.[87] NMFS also discussed the impact of noise on Cook Inlet belugas when it designated critical habitat for the species in 2011. According to the agency, noise may push beluga whales to abandon their habitats, cause temporary or permanent hearing damage, and impede communication among these highly social animals.[88] In its recent Draft Recovery Plan, NMFS listed noise as a "high concern" to the recovery of Cook Inlet beluga whales.[89]

The scientific community has recognized that anthropogenic ocean noise poses a growing threat to marine mammals.[90] High-intensity anthropogenic noise may cause stranding; loss of hearing; avoidance of habitat or migratory pathways; disruption or loss of efficiency in mating, feeding, nursing, or migration behaviors; chronic stress; and declines in prey species.[91] Anthropogenic noise has also been shown to have specific impacts on beluga whales, including masking beluga communication and echolocation[92] and potentially causing avoidance activities and decreased communication.[93] Research on the impact of anthropogenic noise on Cook Inlet beluga whales is ongoing.[94]

Oil and gas activities in Cook Inlet also pose a serious threat to the continued existence of the Cook Inlet beluga whale. These activities generate anthropogenic noise through use of airgun arrays, survey vessels, pile driving and drilling. Oil and gas exploration and drilling also produces pollution. Research has found polycyclic aromatic

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[87] Endangered Status for the Cook Inlet Beluga Whale, 73 Fed. Reg. 62,919, 62,929 (Oct. 22, 2008).
[88] Designation of Critical Habitat for Cook Inlet Beluga Whale, 76 Fed. Reg. 20,180, 20,203 (Apr. 11, 2011).
[89] NMFS Draft Recovery Plan, *supra* note 10, at 102-103.
[90] *See, e.g.*, Rosalind M. Rolland et al., *Evidence that Ship Noise Increases Stress in Right Whales*, 279 PROCEEDINGS OF THE ROYAL SOC'Y 2362 (2012); Victoria L.G. Todd et al., *A Review of Impacts of Marine Dredging Activities on Marine Mammals*, 72 ICES J. MARINE SCI. 328, 330-331 (2015).
[91] ARTHUR N. POPPER & ANTHONY HAWKINS, THE EFFECTS OF NOISE ON AQUATIC LIFE, (Springer, 2012); I. Boyd et al., *An International Quiet Oceans Experiment*, 24 OCEANS 174 (2011); L. Di Iorio & C.W. Clark, *Exposure to Seismic Survey Alters Blue Whale Acoustic Communication*, 6 BIOLOGICAL LETTERS 51 (2012); John Hildebrand, *Impacts of Anthropogenic Sound*, *in* Timothy J. Ragen, MARINE MAMMAL RESEARCH: CONSERVATION BEYOND CRISIS 101-123 (2006); Nathan D. Merchant et al., *Monitoring Ship Noise to Assess the Impact of Coastal Developments on Marine Mammals*, 78 MARINE POLLUTION BULL. 85 (2014); Douglas P. Nowacek et al., *Responses of Cetaceans to Anthropogenic Noise*, 37 MAMMAL REV. 81 (2007).
[92] Cedric Gervaise et al., *Shipping Noise in Whale Habitat: Characteristics, Sources, Budget, and Impact on Belugas in Saguenay-St. Lawrence Marine Park Hub*, 132 J. ACOUSTICAL SOC'Y AM. 76 (2012).
[93] L.S. Kendall et al., *Effects of Construction Noise on Cook Inlet Beluga Whales (*Delphinapterus Leucas*) Vocal Behavior*, 41 CANADIAN ACOUSTICS 3, 7-9 (2013).
[94] B.S. Stewart, *Interactions Between Beluga Whales (Delphinapterus leucas) and Boats in Knik Arm, Upper Cook Inlet, Alaska: Behavior and Bioacoustics*, HUBBS-SEAWORLD RES. INSTITUTE TECHNICAL REPORT (2012), http://www.alaskafisheries.noaa.gov/protectedresources/whales/beluga/acoustics/hswri_techrpt_boats_belugas2012.pdf.

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hydrocarbon (PAH) contamination in Cook Inlet beluga whale tissue samples.[95] These contaminants were also found in several of the belugas' summer prey species, including king salmon, red salmon, and eulachon.[96] PAHs are associated with oil and gas activities and are known to have carcinogenic and other adverse impacts on marine mammal health.[97]

Oil and gas exploration has been ongoing in Cook Inlet for decades. As of January, 2015, the Division of Oil and Gas in the State of Alaska Department of Natural Resources reported oil and gas exploration in Cook Inlet from a variety of companies including Hilcorp, Apache Alaska, BlueCrest Energy, SAExploration, Cook Inlet Energy, and Global Geophysical Services.[98] Exploration is the precursor, of course, for production, and at least Cook Inlet Energy has plans to drill in Cook Inlet as early as this summer pending the results of the seismic surveys.[99]

Additionally, NMFS continuously receives requests for authorization to take marine mammals in Cook Inlet through oil and gas activities. As recently as May 2015, NMFS authorized an incidental take permit by SAExploration Inc. for an oil and gas exploration seismic survey program.[100] This request calculated a take by harassment of up to thirty belugas in Cook Inlet, stating that the primary potential impacts of the project on marine mammals would be "elevated sound levels produced by airguns and other active acoustic sources."[101] NMFS also issued a proposal that would authorize Apache Alaska Corporation to take by harassment up to thirty Cook Inlet beluga whales every year for five years in the course of oil and gas exploration.[102] In fact, NMFS consistently approves marine mammal incidental take authorizations for seismic exploration in Cook Inlet.[103]

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[95] Dana L. Wetzel et al., Polycyclic Aromatic Hydrocarbon (PAH) Contamination in Cook Inlet Belugas, Their Prey, and Their Environment Based on Summer Sampling, Presentation at the 2014 Cook Inlet Beluga Whale Conference in Anchorage, Alaska (Apr. 5, 2014), https://alaskafisheries.noaa.gov/protectedresources/whales/beluga/conference/2014/default.htm.
[96] *Id.*
[97] *Id.*
[98] Division of Oil and Gas, *Cook Inlet Oil and Gas Activity*, STATE OF ALASKA, DEP'T OF NAT. RESOURCES (Jan. 2015), http://dog.dnr.alaska.gov/GIS/Data/ActivityMaps/CookInlet/Cook_Inlet_Oil_and_Gas_Activity_Map_01012015.pdf.
[99] Alaska Department of Natural Resources Division of Oil & Gas. *Cook Inlet Activity Maps*, last retrieved on June 10, 2015. Available at http://dog.dnr.alaska.gov/GIS/ActivityMaps.htm
[100] Taking Marine Mammals Incidental to Seismic Surveys in Cook Inlet, Alaska, 80 Fed. Reg. 29161 (May 20, 2015).
[101] Taking Marine Mammals Incidental to Seismic Surveys in Cook Inlet, Alaska, 80 Fed. Reg. 14,913, 14,926, 14,932 (Mar. 20, 2015). *See also* Taking Marine Mammals Incidental to Seismic Surveys in Cook Inlet, Alaska, 80 Fed. Reg. 9510 (Feb. 23, 2015).
[102] *Id.* at 9529-31.
[103] Taking Marine Mammals Incidental to Seismic Survey in Cook Inlet, Alaska, 79 Fed. Reg. 13,626 (Mar. 11, 2014); Taking Marine Mammals Incidental to Seismic Survey in Cook Inlet, Alaska, 78 Fed. Reg. 12,720 (Feb. 25, 2013); Taking Marine Mammals Incidental to Seismic Survey in Cook Inlet, Alaska, 77 Fed. Reg. 27,720 (May 11, 2012).

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Finally, Cook Inlet beluga whales are at an increased risk of disease and death due to pollutant exposure from sources other than the Asplund Sewage Plant. These include seafood processing, stormwater runoff, airport deicing, ballast water discharge, military sites, and oil and gas exploration.[104] As described above, pollution can harm Cook Inlet belugas directly, or through ingestion of prey species.[105]

III. Statutory Background

A. Overview

The Clean Water Act prohibits the discharge of wastewater to the ocean or other waters of the United States except as authorized by a NPDES permit.[106] Although the Alaska Department of Environmental Conservation (ADEC) has been delegated authority over the NPDES permitting program in the state, EPA retains NPDES authority over certain facilities, including the Asplund Sewage Plant, with certification by the state of Alaska.[107] NPDES permits regulate the discharge of pollutants from point sources to surface waters by applying technology-based treatment requirements.[108] The permits must also include any more stringent limitations necessary to assure compliance with receiving water standards and other applicable state and federal requirements.[109]

B. Section 301(h) Waivers

When Congress passed the Clean Water Act in 1972, it required all sewage plants to achieve secondary treatment capability by 1977.[110] However, many sewage plants were delinquent in meeting the congressional deadline. Moreover, many plants that discharged into marine waters argued that secondary treatment might be unnecessary because marine sewage plants discharge into deeper waters with large tides and substantial currents, which allow for greater dilution and dispersion than non-marine sewage plants.[111] Consequently, Congress added Section 301(h) to the Clean Water Act in 1977, allowing EPA to grant a very limited exception to the secondary treatment requirement for marine dischargers on case-by-case basis, provided that the sewage plant

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[104] Proposed Endangered Status for the Cook Inlet Beluga Whale, 72 Fed. Reg. 19,854, 19,858 (Apr. 20, 2007); Mixing Zone Report, *supra* note 855, at 28-31.
[105] Mixing Zone Report, *supra* note 855, at 37.
[106] 33 U.S.C. § 1311, 1342 (2012).
[107] National Pollutant Discharge Elimination System Memorandum of Agreement Between State of Alaska and U.S. EPA Region 10 (amended Aug. 11, 2011) 3, http://www.epa.gov/region10/pdf/npdes/alaska/3_NPDES_Program_Transfer_to_Alaska_DEC_Final_MOA_amended_8_11_11.pdf.
[108] 40 C.F.R. § 125.3 (2015).
[109] 33 U.S.C. § 1311(b)(1)(C) (2012).
[110] Office of Water, *The Clean Water Act Section 301(h) Program, Amendments to Regulations Issues*, ENVTL. PROT. AGENCY (Aug. 1994) http://www.epa.gov/owow/oceans/discharges/301h.html.
[111] *Id.*

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could meet a set of "environmentally stringent criteria" under Section 301(h).[112] These modified NPDES permits are referred to as 301(h) waivers.

From the beginning, 301(h) waivers have been the exception rather than the rule, and these permits have grown increasingly rare over time. Initially, 208 wastewater treatment plants applied for a 301(h) waiver, but by 1994, EPA had only approved thirty-six permits and was considering merely ten more.[113] Since then, the number of waivers has continued to decline. Today, there are only twenty-nine remaining 301(h) waivers.[114] Of the remaining waivers, three have been tentatively denied,[115] and two are being phased out through negotiated settlement agreements.[116] In the past six years alone, EPA has issued four final decisions denying 301(h) waivers.[117]

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[112] *Id.*

[113] *Current 301(h) Waiver Recipients and 301(h) Applications Pending Final Decision*, ENVTL. PROT. AGENCY, http://water.epa.gov/type/oceb/assessmonitor/301list.cfm (last visited Apr. 7, 2015).

[114] *See infra* Table 1.

[115] EPA has issued Tentative Decisions denying reissuance of 301(h) waivers in Gloucester, MA; Tafuna (Pago Pago), AS; and Utulei, AS. *See* U.S. ENVTL. PROT. AGENCY, CITY OF GLOUCESTER, MASSACHUSETTS, PUBLICLY OWNED TREATMENT WORKS, NPDES PERMIT NO. MA0100625 APPLICATION FOR MODIFICATION OF SECONDARY TREATMENT REQUIREMENTS UNDER SECTION 301(H) OF THE FEDERAL CLEAN WATER ACT: TENTATIVE DECISION (2010) [hereinafter GLOUCESTER TENTATIVE DECISION], http://www.gloucester-ma.gov/DocumentCenter/Home/View/664; U.S. ENVTL. PROT. AGENCY, AMERICAN SAMOA POWER AUTHORITY'S TAFUNA SEWAGE TREATMENT PLANT APPLICATION FOR A MODIFIED NPDES PERMIT UNDER SECTION 301(H) OF THE CLEAN WATER ACT: TENTATIVE DECISION (2009) [hereinafter TAFUNA TENTATIVE DECISION], http://www.epa.gov/region9/water/npdes/pdf/as/2009TafunaTDD-AS0020010.pdf; U.S. ENVTL. PROT. AGENCY, AMERICAN SAMOA POWER AUTHORITY'S UTULEI SEWAGE TREATMENT PLANT APPLICATION FOR A MODIFIED NPDES PERMIT UNDER SECTION 301(H) OF THE CLEAN WATER ACT: TENTATIVE DECISION (2009) [hereinafter UTULEI TENTATIVE DECISION], http://www.epa.gov/region9/water/npdes/pdf/as/2009UtuleiTDD-AS0020001.pdf.

[116] The waivers in Morro Bay and Goleta in California were extended under agreements to upgrade to higher levels of wastewater treatment. U.S. ENVTL. PROT. AGENCY, CITY OF MORRO BAY/CAYUCOS SANITARY DISTRICT'S APPLICATION FOR A MODIFIED NPDES PERMIT UNDER SECTION 301(H) OF THE CLEAN WATER ACT: DECISION OF THE REGIONAL ADMINISTRATOR 12 (2006), https://ca-morrobay.civicplus.com/DocumentCenter/Home/View/459; GOLETA SANITARY DIST., NPDES MONITORING PROGRAM: 2013 ANNUAL REPORT 1 (2014), http://www.goletasanitary.org/images/2013 Annual NPDES Report %282%29.pdf.

[117] U.S. ENVTL. PROT. AGENCY, CITY AND COUNTY OF HONOLULU'S SAND ISLAND WASTEWATER TREATMENT PLANT APPLICATION FOR A MODIFIED NPDES PERMIT UNDER SECTION 301(H) OF THE CLEAN WATER ACT, DECISION OF THE REGIONAL ADMINISTRATOR (2009) [hereinafter SAND ISLAND DECISION], http://www.epa.gov/region9/water/npdes/pdf/sand-island/Sand-Island-FDD.pdf; U.S. ENVTL. PROT. AGENCY, CITY AND COUNTY OF HONOLULU'S HONOULIULI WASTEWATER TREATMENT PLANT APPLICATION FOR A MODIFIED NPDES PERMIT UNDER SECTION 301(H) OF THE CLEAN WATER ACT, DECISION OF THE REGIONAL ADMINISTRATOR (2009) [hereinafter HONOULIULI DECISION], http://www.epa.gov/region9/water/npdes/pdf/honouliuli/Honouliuli-FDD.pdf; U.S. ENVTL. PROT. AGENCY, GUAM WATERWORKS AUTHORITY'S AGANA SEWAGE TREATMENT PLANT APPLICATION FOR A MODIFIED NPDES

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The mounting number of denied waivers reflects a growing recognition that these waivers are harmful to marine ecosystems and undermine the Clean Water Act's goal "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[118] Protecting marine life is a critical factor in these waiver denials. In fact, every recent EPA decision to deny a 301(h) waiver reissuance has held that the applicant could not meet the standard of proof necessary to ensure the protection of a balanced, indigenous population of aquatic life in the affected area.[119]

To qualify for a 301(h) waiver, a sewage plant must demonstrate that its discharge complies with water quality standards for the three parameters defined for secondary treatment under the Clean Water Act, including TSS, BOD, and pH.[120] EPA regulations also require that applicants demonstrate compliance with local, state or other federal laws or Executive Orders.[121] The Clean Water Act regulations explicitly identify the ESA and MMPA.[122] States must also certify that the discharge meets applicable state water quality standards in order to receive a waiver, including state antidegradation requirements.[123]

PERMIT UNDER SECTION 301(H) OF THE CLEAN WATER ACT, FINAL DECISION (2009) [hereinafter AGANA DECISION], http://www.epa.gov/region9/water/npdes/pdf/guam/Agana-FDD-FinalSig.pdf; U.S. ENVTL. PROT. AGENCY, GUAM WATERWORKS AUTHORITY'S NORTHERN DISTRICT SEWAGE TREATMENT PLANT APPLICATION FOR A MODIFIED NPDES PERMIT UNDER SECTION 301(H) OF THE CLEAN WATER ACT, FINAL DECISION OF THE REGIONAL ADMINISTRATOR (2009) [hereinafter NORTHERN DISTRICT DECISION], http://www.epa.gov/region9/water/npdes/pdf/guam/Northern-DistFddFinalSig.pdf.

[118] 33 U.S.C. § 1251(a) (2012).

[119] *See* GLOUCESTER TENTATIVE DECISION, *supra* note 11515, at 24; SAND ISLAND DECISION, *supra* note 11717, at 82; HONOULIULI DECISION, *supra* note 1177, at 99; AGANA DECISION, *supra* note 1177, at 47-48; NORTHERN DISTRICT DECISION, supra note 1177, at 51; TAFUNA TENTATIVE DECISION. *supra* note 11515, at 4; UTULEI TENTATIVE DECISION, *supra* note 11515, at 4; U.S. ENVTL. PROT. AGENCY, PUBLIC NOTICE OF A TENTATIVE DECISION BY THE EPA REGION I ADMINISTRATOR TO DENY APPLICATIONS FOR SECTION 301(H) VARIANCES 1-2 (2007) http://www.epa.gov/region1/npdes/ permits/draft/2007/draftme301hdenialspn.pdf (announcing EPA's decision to deny 301(h) waivers in Bucksport, Milbridge, and Winterport, Maine). Additionally, concern for the impact of primary discharge on the sea otter population was one of the driving pushes to phase out the Morro Bay 301(h) waiver. Staff Report for Regular Meeting, Reg'l Water Quality Control Bd., Cent. Coast Region, State of Cal. 1, 8-9 (Dec. 4-5, 2008), http://www.waterboards.ca.gov/ centralcoast/board_info/agendas/2008/dec/item_11/11_stfrpt.pdf

[120] 40 C.F.R. §125.61(b) (2015). Federally-approved Alaska water quality standards are located at ALASKA ADMIN. CODE tit.18 § 70 (2003), http://dec.alaska.gov/water/wqsar/wqs/pdfs/70mas.pdf.

[121] 40 C.F.R. § 125.59(b)(3) (2015).

[122] *Id.*

[123] *See id.*; ALASKA ADMIN. CODE tit. 18, § 70.015 (2015) (setting out state antidegradation policy).

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C. Basis for Terminating NPDES Permit

EPA may terminate a NPDES permit, including one containing a 301(h) waiver, during its term for four main reasons.[124] First, the permit may be terminated for noncompliance with any condition of the permit.[125] Second, the permit may be terminated for failure to disclose fully all relevant facts in the application process or misrepresentation of any relevant facts at any time.[126] Third, the permit may be terminated if there is a determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.[127] Fourth, and most crucially, the permit may be terminated *if there is a change in any condition that requires a temporary or permanent reduction or elimination of any discharge controlled by the permit.*[128]

The perilous situation of the critically endangered beluga whale – combined with NMFS's listing and critical habitat designation under the ESA – constitutes a changed condition that requires elimination of the waiver, and modifying the terms of the permit to require secondary treatment is the only way to regulate the threat posed by the sewage discharge to the Cook Inlet. Based on these factors, EPA is within its discretion to terminate the Asplund Sewage Plant's NPDES permit or 301(h) waiver at any time – and certainly within its discretion to deny the plant's application for a renewed waiver.

IV. EPA Should Deny the Asplund Sewage Plant's Application for Renewal of Its 301(h) Waiver

In addition to having the authority to terminate a 301(h) waiver during its term, EPA can deny applications for renewals of 301(h) waivers based on the failure of an applicant to meet criteria under the Clean Water Act.[129] These criteria include, but are not limited to, meeting various applicable water quality standards and demonstrating that discharge will not interfere with a balanced indigenous population of fish and wildlife in receiving waters.[130] In recent years, EPA has denied multiple applications for renewals of 301(h) waivers for failing to meet these criteria under the Clean Water Act.[131]

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[124] 40 C.F.R. § 122.64 (2015).
[125] *Id.* § 122.64(a)(1).
[126] *Id.* § 122.64(a)(2).
[127] *Id.* § 122.64(a)(3).
[128] *Id.* § 122.64(a)(4).
[129] 33 U.S.C. § 1311(h) (2012).
[130] 33 U.S.C. § 1311(h) (2012).
[131] AGANA DECISION, *supra* note 1177, at 5 (including but not limited to, failing to comply with primary treatment requirements, failing to achieve Guam water quality standards, and potentially interfering with balanced indigenous population of fish and wildlife); HONOULIULI DECISION, *supra* note 1177, at 10-11 (including but not limited to, failing to demonstrate that it can consistently water quality standards, having an insufficient monitoring program, and potentially interfering with balanced indigenous population of fish and wildlife).

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Here, EPA should deny the reissuance of the 301(h) waiver because the Asplund Sewage Plant cannot demonstrate that it meets the environmentally stringent criteria under Section 301(h).

A. The Sewage Plant Violates the Clean Water Act's Requirements for Issuance of a 301(h) Waiver

1. Burden of Proof

EPA, with the certification of the State, may grant a waiver only "if the applicant demonstrates" that it can meet the stringent criteria justifying the waiver.[132] As EPA has noted in past decisions denying applications for renewals of 301(h) waivers, the applicant has the "burden of demonstrating that [water quality] standards will be met."[133]

If the Asplund Sewage Plant cannot prove that its discharge has no adverse impact on the Cook Inlet beluga whale, EPA must deny AWWU's application for renewal of the 301(h) waiver.

2. No Balanced Indigenous Population of Shellfish, Fish, and Wildlife Exists in Cook Inlet

The Clean Water Act prohibits any permit issued under Section 301(h) from authorizing "the discharge of any pollutant into saline estuarine waters which at the time of application do not support a balanced indigenous population of shellfish, fish and wildlife."[134] This prohibition applies regardless of whether there is a "causal relationship between [the existence of a balanced indigenous population] and the applicant's current or proposed discharge."[135] As described in Part II(C) above, the Cook Inlet beluga whale population has declined dramatically, prompting NMFS to list whale as an endangered species in 2008. In spite of the listing, the population of the Cook Inlet beluga has continued to decline.[136] Marine mammals, including beluga whales, are considered sentinel species, reflecting overall ecosystem health.[137] Thus, the absence of a healthy population of Cook Inlet belugas is indicative of a larger-scale lack of a "balanced indigenous population" in Cook Inlet.

A balanced indigenous population is defined as an "ecological community which: (1) Exhibits characteristics similar to those of nearby, healthy communities existing under comparable but unpolluted environmental conditions; or (2) May reasonably be expected

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[132] 33 U.S.C. § 1311(h) (2012); 40 C.F.R. §§ 125.57(a), 125.59((i), 125.60(a),125.61(b), 125.62(f) (2015). *See also* In the Matter of Mayaguez Regional Sewage Treatment Plant Puerto Rico Aqueduct and Sewer Authority, 4 E.A.D. 772 (EAB 1993).
[133] HONOULIULI DECISION, *supra* note 1177, at 10-11.
[134] 33 U.S.C. § 1311(h) (2012); 40 C.F.R. § 125.59(b)(4) (2015).
[135] *Id.*
[136] NMFS 2014 Stock Assessment, *supra* note 466, at 36.
[137] G.D. Bossart, *Marine Mammals as Sentinel Species for Oceans and Human Health*, 48 VETERINARY PATHOLOGY 676 (2011).

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to become re-established in the polluted water body segment from adjacent waters if sources of pollution were removed."[138] According to EPA guidance, in evaluating a balanced indigenous population, the biological community may be evaluated based on species composition, abundance, biomass, dominance, and diversity; growth and reproduction of populations; disease frequency; trophic structure and productivity patterns; presence or absence of certain indicator species; and bioaccumulation of toxic materials.[139]

Here, the biological community fails a number of these factors, leading to the inescapable conclusion that a balanced indigenous population of aquatic life does not exist. Cook Inlet has both species composition and trophic structure challenges. Endangered beluga whales are apex predators[140] and a sentinel species,[141] reflecting the important role they fill in the Cook Inlet ecological community. The listing of the Cook Inlet beluga as endangered reflects an unnaturally low abundance in the biological community. Additionally, there is evidence that the diet of Cook Inlet belugas has declined in trophic level over time, possibly reflecting the curtailment of the whales' geographic range or a shift in their prey species, further indication of an unbalanced population.[142]

There is evidence that the Asplund Sewage Plant's discharge is contributing to the decline of Cook Inlet belugas.[143] *But regardless of the existence of a causal link between the plant's discharge and the decline of the Cook Inlet beluga population, the law is clear: EPA may not authorize a 301(h) waiver in the absence of a balanced indigenous population.*[144] Here, a balanced indigenous population does not exist, and therefore, EPA must deny the Asplund Sewage Plant's application for renewal of a 301(h) waiver.

3. The Sewage Plant Cannot Demonstrate that Its Discharge Will Not Interfere with the Attainment of Water Quality for the Protection of a Balanced Indigenous Population of Beluga Whales

In addition to requiring that a balanced indigenous population be present in saline estuarine waters for discharging effluent under a 301(h) waiver, the Clean Water Act requires any sewage plant discharging under a 301(h) waiver to prove that:

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[138] 40 C.F.R. § 125.58(f) (2015).
[139] *Amended Section 301(h) Technical Support Document* (EPA 842-B-94-007), ENVTL. PROT. AGENCY 126 (Sept. 1994), http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=20004Z5R.txt [hereinafter 301(h) Technical Support Document].
[140] Designation of Critical Habitat for Cook Inlet Beluga Whale, 76 Fed. Reg. 20,180, 20,203 (Apr. 11, 2011).
[141] Bossart, supra note 1377.
[142] M.A. Nelson & L.T. Quakenbush, *Cook Inlet Beluga Diet Using $\partial^{13}C$ and $\partial^{15}N$ Values of Bone and Teeth*, Presented at the 2014 Cook Inlet Beluga Whale Conference in Anchorage, Alaska (Apr. 5, 2014), http://alaskafisheries.noaa.gov/protectedresources/whales/beluga/conference/2014/2014cibabstractbook.pdf.
[143] See *supra* Part II(C)(2).
[144] 33 U.S.C. § 1311(h) (2012).

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> "[T]he discharge of pollutants in accordance with such modified requirements will not interfere, alone or in combination with pollutants from other sources, with the attainment or maintenance of that water quality which assures protection of public water supplies and the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife, and allows recreational activities, in and on the water. . . ."[145]

The Asplund Sewage Plant is violating this provision of the Clean Water Act because it cannot meet this standard. The Sewage Plant's discharge exposes Cook Inlet beluga whales to pathogens and pollutants that are harmful to their health and may accumulate in their blubber, hinder reproduction, and lead to illness.[146] The Asplund Sewage Plant's discharge is therefore interfering with the attainment and maintenance of water quality that protects a balanced indigenous population of wildlife, including belugas, and EPA must deny its application for 301(h) waiver renewal.

NMFS has repeatedly acknowledged the potential adverse impacts of wastewater treatment effluent on Cook Inlet beluga health. Most recently, in its Draft Recovery Plan, the agency found wastewater to be a "concern" for beluga recovery and concluded that requiring the Asplund Sewage Plant to upgrade "from a primary to a secondary treatment facility could make a notable difference in total pollutants released into Cook Inlet, particularly into Cook Inlet beluga whale critical habitat."[147] In its notice designating critical habitat for the Cook Inlet beluga whales, NMFS discussed the specific vulnerability of Cook Inlet beluga whales to pollution because of their biological sensitivity to certain pollutants, the potential for biomagnification of pollutants due to their trophic position, and their small habitat size.[148] Consequently, the agency defined water free of toxins and other harmful agents as "essential" to the conservation of the species.[149] Prior to its designation of Cook Inlet beluga whale critical habitat, NMFS also discussed the potential adverse effects from municipal wastewater effluent on the Cook Inlet beluga whales' habitat in its decision to list the Cook Inlet beluga whale as endangered.[150] The agency's *Conservation Plan for the Cook Inlet Beluga Whale* further discussed wastewater treatment as a potential threat to beluga health.[151]

Other research has corroborated the special sensitivity of Cook Inlet beluga

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[145] *Id.*
[146] *E.g., Pathogens Exposures for Cook Inlet Beluga Whales*, *supra* note 622; Norman, *supra* note 60; D.J. Vos & K.E.W. Shelden (2005), *Unusual Mortality in the Depleted Cook Inlet (*Delphinapterus leucas*) Population*, 86 NORTHWESTERN NATURALIST, 59 (2005).
[147] NMFS Draft Recovery Plan, *supra* note 10, at 81.
[148] Designation of Critical Habitat for Cook Inlet Beluga Whale, 76 Fed. Reg. 20,203 (April 11, 2011).
[149] *Id.*; *see infra* Part IV(B)(2).
[150] Endangered Status for the Cook Inlet Beluga Whale, 73 Fed. Reg. 62,919, 62,927 (Oct. 22, 2008).
[151] NMFS Conservation Plan, *supra* note 19, at 48-49.

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whales to pollutants. The beluga's diet, discussed above,[152] reflects the "belugas' wide range of habitat, their adaptation to arctic regions of relatively low annual productivity, and their strict seasonality."[153] The species is exposed to chemicals, such as PCBs and mercury, which accumulate and are biomagnified along the food chain.[154] Consequently, the beluga whale "has the potential to have relatively high concentrations of persistent contaminants in its tissues."[155] The accumulation of toxic chemicals may interact with other stressors affecting the belugas, such as "[b]iotoxins, bacterial or viral infections, physical stresses in the environment, parasites, periodic limitations in food, or stress of being hunted."[156] In combination, these factors compromise the belugas' health.

Effluent from the plant contains pollutants that have a toxic effect in Cook Inlet. Furthermore, whole effluent toxicity (WET) testing conducted by the Asplund Sewage Plant in Cook Inlet has shown that its effluent is having a toxic impact. In general, WET testing shows "the aggregate toxic effect of an effluent measured directly by an aquatic toxicity test," providing a comprehensive test for discharge toxicity.[157] In these tests, the Asplund Sewage Plant exposes purple urchin sperm to its effluent. The purpose of the purple urchin fertilization test method is to estimate the chronic toxicity of an effluent and receiving water mixture to the gametes of sea urchins. Pollutants that adversely affect egg fertilization under these test conditions are usually toxic to other marine test species, and presumably toxic to other untested marine species.[158] EPA has found that benthic macro-invertebrates, such as the purple urchin, are an important part of a balanced indigenous population because "major potential affects [sic] of municipal discharges are associated with benthic macro-invertebrates."[159]

WET testing is required on a quarterly basis by the Asplund Sewage Plant's NPDES permit.[160] WET testing for the Asplund Sewage Plant in August 2013,[161]

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[152] *See supra* Part II(C)(1).
[153] *Alaska Marine Mammal Tissue Archival Project*, *supra* note 633, at 4 (citing P.F. Brodie, *The white whale, Delphinapterus leucas* (Pallas, 1776), *in* 4 HANDBOOK OF MARINE MAMMALS, RIVER DOLPHINS AND THE LARGER TOOTHED WHALES (S. H. Ridgeway and R. J. Harrison, eds.,1989)).
[154] *Id.*
[155] *Id.* at 4.
[156] *Id.* at 48.
[157] *Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing (40 CFR Part 136)*, ENVTL. PROTECTION AGENCY 1-1 (July 2000), http://water.epa.gov/scitech/methods/cwa/wet/upload/2007_07_10_methods_wet_wetguide.pdf (citing 54 Fed. Reg. 23,868, 23,895 (June 2, 1989)).
[158] UTULEI TENTATIVE DECISION, *supra* note 1175, at 53.
[159] *Id.* at 54.
[160] AUTHORIZATION TO DISCHARGE AND DISPOSE BIOSOLIDS UNDER THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM, MUNICIPALITY OF ANCHORAGE, JOHN M. ASPLUND WATER POLLUTION CONTROL FACILITY (Aug. 2, 2005) 11, http://yosemite.epa.gov/r10/water.nsf/95537302e2c56cea8825688200708c9a/16dcdebf18bc8ee28825742b006cee6f/$FILE/ATTBGSLL/AK0022551%20FP.pdf [hereinafter ASPLUND SEWAGE PLANT 2005 PERMIT].
[161] Letter to Dir., Office of Water, Envtl. Prot. Agency, Region 10, from Tom Winkler, Acting Dir., Treatment Div., AWWU (Oct. 10, 2013) (on file with NRDC).

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February 2014,[162] and August 2014[163] found "significant reductions in successful fertilization" for purple urchin sperm. While the results did not exceed the Asplund Sewage Plant's permit toxicity trigger of 143 chronic toxicity units, the testing still demonstrates that the plant's discharge is having toxic impacts on the waters of Cook Inlet.

Even treated sewage effluent contains harmful pathogens. As described above, primary treatment often fails to eliminate the pathogens *Salmonella, Shigella* and *Vibrio* from the effluent. [164] The discharge of effluent containing these pathogens to the waters of Cook Inlet compromises the quality of the water. Scientific research has shown an association between higher rates of mortality in marine mammal young and strains of *Salmonella*.[165] Pathogen-containing sewage effluent also contributes to disease stressors such as gastric infections, sepsis and mastitis.[166]

In sum, the burden falls on the Asplund Sewage Plant to prove that its discharge is not contributing to the Cook Inlet beluga whale's population decline.[167] The impact of wastewater pollution, in combination with these stressors, makes it impossible for the Asplund Sewage Plant to show that its operation under a continued 301(h) waiver will protect a balanced indigenous population, as required by the Clean Water Act.[168] EPA must therefore deny the Asplund Sewage Plant's application for renewal of its 301(h) waiver.

4. The Asplund Sewage Plant Cannot Demonstrate that It Meets Water Quality Standards

In order to receive a 301(h) waiver, the Clean Water Act requires that the applicant demonstrate compliance with the applicable water quality standards for which a permit modification has been requested[169] as well as all other water quality standards, including those for bacteria and toxic pollutants.[170] Section 301(h) waivers considerably

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[162] Letter to Dir., Office of Water, Envtl. Prot. Agency, Region 10 from AWWU, Treatment Div. (Apr. 9, 2014) (on file with NRDC).
[163] Letter to Dir., Office of Water, Envtl. Prot. Agency Region 10 from David Persinger, Dir., Treatment Div., AWWU (Sept. 10, 2014) (on file with NRDC).
[164] *Pathogens exposures for Cook Inlet beluga whales*, *supra* note 622, at 3-2 (citing W.E.F., *Detection and Occurrence of Indicator Organisms and Pathogens*, 80 WATER ENVT. RES. (2008); J.R. Stewart et al., *The Coastal Environment and Human Health: Microbial Indicators, Pathogens, Sentinels and Reservoirs*, 7 ENVTL. HEALTH (7) Supplement 2, S3 (2008); M. Dungeni et al., *Abundance of pathogenic bacteria and viral indicators in chlorinated effluents produced by four wastewater treatment plants in the Gauteng Province, South Africa* (2010), http://ajol.info/index.php/wsa/article/viewFile/61994/50044).
[165] *Id.* at 3-2.
[166] *Id.* at 4-2.
[167] 33 U.S.C. § 1311(h) (2012).
[168] *Id.* § 1311(h)(2).
[169] *Id.* § 1311(h)(1).
[170] 40 C.F.R. § 125.62(a) (2015).

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relax the water quality standards that sewage plants must meet, setting the bar for the Asplund Sewage Plant extremely low. Under a permit without a 301(h) waiver, the Asplund Sewage Plant would need to treat its discharge to remove a monthly average of 85 percent each of BOD and TSS.[171] However, its current primary treatment procedures remove only 42.8 percent of BOD and 78 percent of TSS.[172]

Additionally, the Asplund Sewage Plant has exceeded the permissible level of fecal coliform bacteria defined by its NPDES permit on multiple occasions. The Sewage Plant's NPDES permit sets a monthly average effluent limitation for fecal coliform bacteria of 850 colonies per 100 mL of effluent and stipulates that no more than ten percent of the effluent samples shall exceed 2600 colonies per 100 mL.[173] On September 18 and 19, 2013, the Asplund Sewage Plant released effluent containing greater than 16,000 colonies per 100 mL, exceeding the latter requirement.[174] The plant also violated this ten percent limit over ten times between 2000 and 2007.[175]

In addition, the Asplund Sewage Plant reported a release of effluent exceeding 16,000 colonies per 100 mL on July 4, 2012. While this did not violate the standard of ten percent of samples exceeding 2600 colonies per 100 mL, it may have increased the plant's monthly average in excess of the 850 colonies 100 mL limit.[176] Regardless of whether the July 4, 2012 release violated the terms of its permit, the Asplund Sewage Plant has demonstrated that it cannot meet even the lenient water quality standards established by its permit.

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[171] *Id.* § 133.102.
[172] Asplund Sewage Plant 2014 Annual Report, *supra* note 2, at 101.
[173] ASPLUND SEWAGE PLANT 2005 PERMIT, *supra* note 16060, at 4.
[174] Letter to Envtl. Prot. Agency, Region 10, from Tom Winkler, Acting Dir., Treatment Division, AWWU (Oct. 10, 2013) (on file with NRDC).
[175] Letter to Envtl. Prot. Agency, Region 10, from Craig Woolard, Dir., Treatment Division, AWWU (June 5, 2007) (on file with NRDC); Letter to Envtl. Prot. Agency, Region 10, from Craig Woolard, Dir., Treatment Division, AWWU (Nov. 6, 2006) (on file with NRDC); Letter to Envtl. Prot. Agency, Region 10, from J. Kris Warren, Dir., Treatment Division, AWWU (Aug. 7, 2006) (on file with NRDC); Letter to Envtl. Prot. Agency, Region 10, from J. Kris Warren, Dir., Treatment Division, AWWU (Sept. 7, 2005) (on file with NRDC); Letter to Envtl. Prot. Agency, Region 10, from J. Kris Warren, Dir., Treatment Division, AWWU (Oct. 7, 2004) (on file with NRDC); Letter to Envtl. Prot. Agency, Region 10, from J. Kris Warren, Dir., Treatment Division, AWWU (Sept. 8, 2004) (on file with NRDC); Letter to Envtl. Prot. Agency, Region 10, from J. Kris Warren, Dir., Treatment Division, AWWU (Aug. 6, 2004) (on file with NRDC); Letter to Envtl. Prot. Agency, Region 10, from J. Kris Warren, Dir., Treatment Division, AWWU (Apr. 9, 2004) (on file with NRDC); Letter to Envtl. Prot. Agency, Region 10, from J. Kris Warren, Dir., Treatment Division, AWWU (Feb. 9, 2004) (on file with NRDC); Letter to Envtl. Prot. Agency, Region 10, from J. Kris Warren, Dir., Treatment Division, AWWU (Aug. 8, 2003) (on file with NRDC); Letter to Envtl. Prot. Agency, Region 10, from J. Kris Warren, Dir., Treatment Division, AWWU (July 9, 2003) (on file with NRDC); Letter to Envtl. Prot. Agency, Region 10, from J. Kris Warren, Dir., Treatment Division, AWWU (Jan. 9, 2003) (on file with NRDC).
[176] Letter to Envtl. Prot. Agency, Region 10, from Richard Steckel, Dir., Treatment Division, AWWU (Oct. 19, 2012) (on file with NRDC).

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The Asplund Sewage Plant's violation of the fecal coliform limits established by its permit poses a serious threat to the Cook Inlet belugas. The harmful effects of wastewater discharge bacteria on beluga whales and other marine mammals are described in Section II(C)(2) above. Fecal coliforms are used as indicators of viruses, protozoans, and bacterial pathogens such as *Salmonella*.[177] Bacteria in wastewater effluent have been demonstrated to cause fatal gastroenteritis in beluga whales and other marine mammals.[178] These bacteria may also contribute to gastritis and gastric ulcers in cetaceans.[179] A report submitted to NMFS found that wastewater treatment plant effluent in Cook Inlet is a "probable conduit[] for the transport of pathogens to the marine environment," and resulting exposure to marine mammals.[180] The report also found a likelihood that wastewater treatment effluent was a significant source of viruses, protozoans, and parasites in upper Cook Inlet, and identified these as being "of probable concern" for the population recovery of the beluga whales.[181] Cook Inlet beluga whales are particularly sensitive to being exposed to bacteria and becoming ill, because they live in dense aggregations near coastal sediment, and because they are situated at a high level on the food chain, allowing for the biomagnification of pollutants in their bodies.[182]

Under Alaska state regulations, the most stringent fecal coliform bacteria limitations apply to marine waters protected for harvesting of raw mollusks or other raw aquatic life for consumption, and Cook Inlet is protected for this use.[183] Yet sewage discharge undermines these protections. Evidence shows that sewage contamination of shellfish harvest beds has led to "large shellfish-associated outbreaks of *Salmonella* serotype Typhi infections."[184] This is not an insignificant threat to the environment or the public, since approximately 500,000 pounds of razor clams are harvested annually in Cook Inlet.[185]

In addition to posing a serious threat to the Cook Inlet beluga whales and shellfish populations, the Asplund Sewage Plant's discharge may pose health risks to humans who recreate in the Cook Inlet area. Various companies provide opportunities for tourists to

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[177] *Pathogens Exposures for Cook Inlet Beluga Whales*, *supra* note 622, at 1-3.
[178] *Bacterial Diseases of Marine Mammals*, THE MERCK VETERINARY MANUAL (Apr. 2012), http://www.merckmanuals.com/vet/exotic_and_laboratory_animals/marine_mammals/bacterial_diseases_of_marine_mammals.html.
[179] CRC HANDBOOK OF MARINE MAMMAL MEDICINE 327 (Leslie A. Dierauf & Frances M.D. Gulland, eds., 2d ed. 2001).
[180] *Pathogens Exposures for Cook Inlet Beluga Whales*, *supra* note 622, at 6-1.
[181] *Id.* at 4-2.
[182] Designation of Critical Habitat for Cook Inlet Beluga Whale, 76 Fed. Reg. 20,180, 20,203 (Apr. 11, 2011).
[183] EPA Fact Sheet, *supra* note 255, at 24. *See* ALASKA ADMIN. CODE tit. 18, § 70.020 (protected water use classes).
[184] Martha Iwamoto et al., *Epidemiology of Seafood-Associated Infections in the United States*, 23 CLINICAL MICROBIOLOGY REVIEWS 399, 400 (2010).
[185] *Razor Clam (*Siliqua patula*)*, ALASKA DEPT. OF FISH & GAME, http://www.adfg.alaska.gov/index.cfm?adfg=razorclam.uses (last visited Apr. 7, 2015).

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fish for the halibut, salmon, razor clams, and other fish that live in Cook Inlet.[186] The Clean Water Act prohibits the Asplund Sewage Plant from discharging primary treated effluent in a manner that does not "allow[] recreational activities, in and on the water."[187] Thus, the Asplund Sewage Plant impermissibly violates the Clean Water Act's requirement of not interfering with recreational activities, when it violates the terms of its NPDES permit.

Finally, the Asplund Sewage Plant had more than forty sanitary sewer overflows between 2004 and 2008, in violation of Section III.E of its permit.[188] Such overflows result in the release of untreated sewage from the plant's collection system. In response, EPA issued an order in 2009 requiring the Asplund Sewage Plant to establish a spill plan and take other remedial steps.[189] While such issues would not be resolved with an upgrade to secondary treatment, these incidents underscore the Asplund Sewage Plant's damaging impact on the water quality of Cook Inlet.

In sum, the Asplund Sewage Plant cannot assure compliance with applicable water quality standards, including fecal coliform standards and water quality levels necessary to preserve protected uses.

5. The Cost of Updating the Asplund Sewage Plant Does Not Impact EPA's Obligation to Require Secondary Treatment

The AWWU has estimated that it will cost $100 million to $1 billion to upgrade the Asplund Sewage Plant to administer secondary treatment to its wastewater influent.[190] However, the Clean Water Act does not authorize EPA to make decisions regarding 301(h) waivers on the basis of the cost of upgrading a sewage plant. In its response to public comments on a decision to deny renewal of a 301(h) waiver for the Sand Island Wastewater Treatment Plant in Hawaii, EPA stated that the Clean Water Act "is clear that a variance cannot be granted unless all the statutory criteria—which do not include consideration of cost—are met."[191]

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[186] *See, e.g.*, *Reel 'Em In Cook Inlet Charters*, COOK INLET FISHING AND NINILCHIK CHARTERS, http://www.cookinletcharters.com/ (last visited Apr. 7, 2015); *Cook Inlet Halibut Fishing*, GREAT ALASKA INTERNATIONAL ADVENTURE VACATIONS http://www.greatalaska.com/pages/cook_inlet_halibut_fishing/191.php (last visited Apr. 7, 2015).
[187] 33 U.S.C. § 1311(h) (2012).
[188] Letter from Edward J. Kowalski, Dir., EPA Office of Compliance and Enforcement, to Mark Premo, Gen. Manager, Municipality of Anchorage Water and Wastewater Utility (July 15, 2009) (on file with NRDC).
[189] In the Matter of Municipality of Anchorage, John M. Asplund Water Pollution Control Facility, Environmental Protection Agency, Docket No. CWA-10-2009-0196 (July 15, 2009) (on file with NRDC).
[190] AWWU Master Plan, *supra* note 288, at 8, app.G; Application for NPDES Permit Reauthorization, Introduction (2004), http://www.awwu.biz/website/environment_frame.htm.
[191] Environmental Protection Agency Response to Comments from the City and County of Honolulu, on the Environmental Protection Agency's Dec. 7, 2007 Tentative Decision regarding the City and County of Honolulu's request for a Variance at the Sand Island Wastewater

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B. The Sewage Plant Violates the Endangered Species Act

EPA cannot reissue a 301(h) waiver where it violates other federal, state, or local laws, including the ESA.[192] Allowing the Asplund Sewage Plant to continue to discharge partially treated effluent into Cook Inlet conflicts with both the spirit and the letter of the ESA's strong protections for endangered species, including Sections 7 and 9 of the Act. In addition, if not already in violation of Section 7, the ESA certainly requires that EPA take immediate action to review the waiver's effects on the Cook Inlet beluga.[193]

Congress passed the ESA in 1973 in response to growing concern over the extinction of fish, wildlife, and plants stemming from "economic growth and development untempered by adequate concern and conservation."[194] Recognizing the aesthetic, ecological, educational, historical, recreational, and scientific value of these species, Congress enacted the ESA with the express purpose of "provid[ing] a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, [and] . . . provid[ing] a program for the conservation of such endangered species and threatened species."[195] In *Tennessee Valley Authority v. Hill*, the Supreme Court confirmed that the ESA reflects Congress's intention that "endangered species . . . be afforded the highest of priorities."[196] To ensure these protections, Congress established requirements to prevent federal agencies' actions from harming endangered and threatened species.

1. EPA's Administrative Continuance of the Waiver Constitutes "Ongoing Agency Action" Subject to ESA Section 7 Consultation

ESA Section 7 requires each federal agency, "in consultation with" the U.S. Fish and Wildlife Service (FWS) and NMFS, to "insure that any action authorized, funded, or carried out by [a federal] agency . . . is not likely to jeopardize the continued existence of any endangered species."[197] The ESA's implementing regulations further provide that federal agencies "shall review [their] actions at the earliest possible time to determine whether any action may affect listed species or critical habitat. If such a determination is

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Treatment Plant under Section 301(h) of the Clean Water Act C72, at 66-67 (Jan. 5, 2009), http://www.epa.gov/region9/water/npdes/pdf/sand-island/Sand-Island-RTC-from-CCH.pdf. *See also*, Environmental Protection Agency, Response to Comments from the City and County of Honolulu, on the Environmental Protection Agency's Mar. 27, 2007 Tentative Decision regarding the City and County of Honolulu's request for a Variance at the Honouliuli Wastewater Treatment Plant under Section 301(h) of the Clean Water Act, at 93 (Jan. 5, 2009), http://www.epa.gov/region9/water/npdes/pdf/honouliuli/Honouliuli-RTC-CCH.pdf.

[192] 40 C.F.R. §125.59(b)(3) (2015).

[193] *See infra* Part V.

[194] 16 U.S.C. § 1531(a)(1) (2012).

[195] *Id.* § 1531(b).

[196] 437 U.S. 153, 174 (1978).

[197] 16 U.S.C. § 1536(a)(2) (2012).

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made, formal consultation is required."[198] With limited exceptions, if it is determined that an action "may affect listed species or critical habitat, formal consultation is required."[199]

The formal consultation process culminates with the issuance of a "biological opinion," which must determine whether the proposed agency action may "jeopardize the continued existence" of any listed species.[200] A biological opinion is not required only if the consulting agency determines that its activity "is not likely to adversely affect" listed species, and if NMFS concurs with this assessment in writing.[201] The requirement that agencies initiate formal consultations before taking action is a strict one.[202]

The ESA's implementing regulations define the term "action" broadly to include "activities or programs of any kind" by a federal agency, examples of which "include, but are not limited to . . . granting of licenses, contracts, leases, easements, rights-of-way, *permits*, [and] grants-in-aid."[203] Courts have likewise accorded "agency action" in Section 7 a broad interpretation.[204] As a result, issuing a NPDES permit is plainly an "agency action" that triggers ESA consultation requirements, and any final decision regarding issuing a 301(h) waiver will undoubtedly require consultation with NMFS.[205]

In addition, EPA may *already* be in violation of ESA Section 7 in its ongoing administration of the administratively continued NPDES permit without consulting with NMFS subsequent to the listing of the Cook Inlet beluga as endangered. ESA regulations require "[r]einitiation of formal consultation . . . where discretionary Federal involvement or control over the action has been retained or is authorized by law and . . . a new species is listed or critical habitat designated that may be affected by the identified action."[206] Thus, ESA regulations required that EPA consult with NMFS when the belugas were listed as endangered during the administrative continuance of the permit. Accordingly, the Ninth Circuit has recognized a category of "ongoing agency action" that also is

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[198] 50 C.F.R. § 402.14(a) (2015). The ESA's implementing regulations refer to the consultations mandated by Section 7 as "formal" consultations. *Id.*
[199] *Id.*
[200] *Id.* § 402.14(h).
[201] *Id.* §§ 402.14(b), 402.14(l)(3).
[202] *Pac. Rivers Council v. Thomas*, 30 F.3d 1050, 1056 (9th Cir. 1994) ("§ 7(d) does not serve as a basis for *any* governmental action unless and until consultation has been initiated.") (emphasis in original).
[203] 50 C.F.R. § 402.02 (2015) (emphasis added).
[204] *See, e.g.*, *Karuk Tribe of Cal. v. U.S. Forest Serv.*, 681 F.3d 1006, 1021 (9th Cir. 2012) ("We have repeatedly held that the ESA's use of the term 'agency action' is to be construed broadly."); *W. Watersheds Project v. Matejko*, 468 F.3d 1099, 1108 (9th Cir. 2006); *Turtle Island Restoration Network v. Nat'l Marine Fisheries Serv.*, 340 F.3d 969, 974 (9th Cir. 2005); *Pac. Rivers Council v. Thomas*, 30 F.3d 1050, 1054 (9th Cir. 1994) ("There is little doubt that Congress intended to enact a broad definition of agency action in the ESA.").
[205] *See infra* Part V.
[206] 50 C.F.R. § 402.16 (2015).

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subject to Section 7 consultation duties where an agency has acted previously, but retains "discretionary control" with "the ability to inure to the benefit of a protected species."[207]

EPA's continued oversight of the Asplund Sewage Plant under the terms of its expired, administratively continued permit constitutes ongoing agency action under the Ninth Circuit's formulation, and EPA should have reinitiated consultation with NMFS when the Cook Inlet beluga was listed as endangered in 2008.

In analogous cases, the Ninth Circuit has required federal agencies to consult with FWS or NMFS under ESA Section 7 where it has found ongoing agency action.[208] In *Washington Toxics Coalition v. EPA*, for example, the Ninth Circuit examined whether EPA had any continuing Section 7 obligations after listing a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).[209] The court held that, because EPA retained "continuing authority over pesticide regulation, it has a continuing obligation to follow the requirements of the ESA."[210] In determining that FIFRA pesticide registration was ongoing agency action, the court cited the "ongoing and long-lasting effect" of the registration and the fact that "EPA retains discretion to alter the registration of pesticides for reasons that include environmental concerns."[211]

Here, similarly, EPA retains discretionary control over the terms of the NPDES permit, which it could shape to the benefit of the listed species by cancelling the 301(h) waiver. EPA has discretion over whether to issue a federal NPDES permit to the plant and over the terms of the permit, provided that the permit meet all applicable requirements of the Clean Water Act.[212] And EPA's regulations implementing Section 301(h) make clear that EPA can terminate a NPDES permit or deny a renewal for several reasons, including "[a] change in any condition that requires either a temporary or permanent reduction or elimination of any discharge . . . or disposal practice controlled by the permit."[213] The listing of an endangered species and designation of critical habitat in the area of the discharge constitutes such a change.

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[207] *Turtle Island Restoration Network*, 340 F.3d at 974.
[208] *See, e.g.*, *Turtle Island Restoration Network*, 340 F.3d at 977 (finding NMFS issuance of permits require consultation because they are "ongoing agency action"); *NRDC v. Houston*, 146 F.3d 1118, 1130 (9th Cir. 1998) (finding water contract renewals constitute ongoing agency activity invoking the consultation provisions of the ESA once new species was listed); *Pac. Rivers Council*, 30 F.3d at 1053 (finding U.S. Forest Service had an obligation to consult with NMFS regarding its Land Resource Management Plans and their effects on listed chinook salmon because "management plans have an ongoing and long-lasting effect even after adoption").
[209] 413 F.3d 1024 (9th Cir. 2005).
[210] *Id.* at 1033.
[211] *Id.*
[212] 33 U.S.C. § 1342(a)(1) (2012) ("[T]he Administrator *may*, after opportunity for a public hearing, issue a permit for the discharge of any pollutant . . . provided that such discharge will meet . . . all applicable requirements under [water quality standards provisions] of this title. . . .").
[213] 40 C.F.R. § 122.64 (2015).

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And, while the Clean Water Act requires five-year term-limited permits in the NPDES program, the practice of administrative continuance of permits more functionally resembles a licensing program like FIFRA, in which EPA authorized the sewage plant to discharge under certain permit terms fifteen years ago, and those same terms have held steady without review by EPA with ongoing and lasting effect.

In sum, although unexercised up to this point, EPA's ongoing discretion to alter the terms of the Asplund Sewage Plant's permit – including the discretion to cancel the 301(h) waiver – constitutes ongoing agency action subject to ESA consultation requirements. The listing of the Cook Inlet beluga during this period of administrative continuance requires EPA to consult with NMFS regarding the effect of its ongoing administration of the 301(h) waiver on the beluga.

2. The Sewage Plant's Discharges Violates Section 9 of the Endangered Species Act in the Absence of an Incidental Take Permit

The Asplund Sewage Plant discharges partially treated wastewater into the Cook Inlet beluga's designated critical habitat, an action that likely violates Section 9 of the ESA, which makes it "unlawful" for "any person" to "take" any endangered or threatened species.[214] The ESA and its implementing regulations prohibit any person from "taking" species listed as endangered.[215] The ESA defines "take" to include actions that "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect [listed species], or to attempt to engage in any such conduct."[216] "Harm" is further defined as "an act which actually kills or injures wildlife."[217] Such acts may include "*significant habitat modification or degradation* where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" and thus encompasses the discharge of harmful pollutants into the belugas' critical habitat where it impairs these behavioral patterns.[218] The Supreme Court upheld the inclusion of habitat modification in the ESA's definition of harm in *Babbit v. Sweet Home Chapter of Communities for a Great Oregon*.[219]

As discussed in Part II(C)(2) above, the Sewage Plant's actions harm Cook Inlet beluga whales, because toxins from the effluent have the potential to cause disease or

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[214] 16 U.S.C. § 1538(a)(1) (2012). Both EPA and AWWU are "persons" under the statute. *Id.* § 1532(13) ("The term 'person' means . . . any officer, employee, agent, department, or instrumentality of the Federal Government, of any State, municipality, or any subdivision of a state. . . .").
[215] *See Id.* §§ 1533, 1538(a)(1)(A)-(B), (G).
[216] *Id.* § 1532(19).
[217] 50 C.F.R. § 17.3 (2015).
[218] *Id.* (emphasis added).
[219] 515 U.S. 687, 695-704 (1996); *see also Palila v. Hawaii Dep't of Land & Natural Res.*, 852 F.2d 1106, 1108 (9th Cir. 1988) ("*Palila II*") ("[H]arm includes not only direct physical injury, but also injury caused by impairment of essential behavior patterns via habitat modification that can have significant and permanent effects on a listed species.").

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impair their behavioral patterns.[220] Recent research found pathogenic bacteria, such as *Cryptosporidium* and *Giardia*, and human host-associated fecal markers in Cook Inlet.[221] The authors of the study stated that the belugas might be exposed to these fecal pathogens "through consumption of seawater and sediment during foraging," and "exposure of superficial skin wounds and abrasions to water and sediment."[222] Indeed, NMFS has identified Cook Inlet beluga whales as particularly vulnerable to pollution, because of their small habitat size and their high trophic level.[223]

Further, when NMFS designates critical habitat for an endangered species, it must identify the "principal biological or physical constituent elements" within the critical habitat that are "essential to the conservation of the species" and therefore may require "special management considerations or protection."[224] These elements, called "primary constituent elements" or PCEs, thus reflect a determination that the maintenance of that particular attribute of the species' critical habitat is essential to the species' survival.

Notably, one of the PCEs of the Cook Inlet beluga critical habitat is "[t]he absence of toxins or other agents of a type and/or amount harmful to Cook Inlet beluga whales."[225] In listing this PCE, NMFS recognized the potential threat that water pollution would degrade the Cook Inlet beluga's habitat and harm the beluga population living in the vicinity of the Asplund Sewage Plant. While not a *per se* violation of the ESA, "potential threats to PCEs will often be the factors evaluated in making determinations regarding whether a proposed Federal action will adversely modify or destroy critical habitat" and are likely to trigger Section 7 consultation.[226] Thus, discharging toxins or other agents into the belugas' critical habitat, thereby degrading its primary constituent elements, falls under the definition of "harm" under ESA Section 9 and would therefore constitute a taking.[227]

If sewage discharge into or near the critical habitat of the Cook Inlet beluga constitutes a "taking," as defined by the ESA, then it is illegal for the Asplund Sewage

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[220] Designation of Critical Habitat for Cook Inlet Beluga Whale, 76 Fed. Reg. 20,203 (Apr. 11, 2011).
[221] Norman et al., *supra* note 60, at 1045.
[222] Norman et al., *supra* note 60, at 1049.
[223] Designation of Critical Habitat for Cook Inlet Beluga Whale, 76 Fed. Reg. 20,180, 20,203 (Apr. 11, 2011).
[224] 50 CFR § 424.12(b) (2015).
[225] Designation of Critical Habitat for Cook Inlet Beluga Whale, 76 Fed. Reg. at 20,203.
[226] *Id.* at 20,182. *See also Final RIR/4(b)(2) Preparatory Assessment/FRFA for the Critical Habitat Designation of Cook Inlet Beluga Whales*, *supra* note 20, at 5-4 (2010) ("[C]ertain activities and projects that have the potential of affecting PCEs . . . may trigger Section 7 consultation(s) under ESA.").
[227] If an adverse modification of critical habitat is alleged, the agency bears the burden of proof to show that the PCEs "will not be altered to an extent that appreciably reduces the conservation value of the critical habitat." *Alliance for the Wild Rockies v. Weber*, 979 F. Supp. 2d 1118, 1133-34 (D. Mont. 2013).

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Plant to discharge without an Incidental Take Permit.[228] NMFS may grant an Incidental Take Permit only after it determines that: (1) the taking is incidental, as opposed to intentional; (2) the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking and develop a plan in conjunction with this requirement; (3) adequate funding for the plan will be provided; and (4) the taking will not appreciably reduce the likelihood of the survival or recovery of the species.[229] However, the Asplund Sewage Plant has neither sought nor received such a permit.

Without a valid Incidental Take Permit, the discharge of untreated sewage into Cook Inlet is prohibited by the plain terms of the ESA and its implementing regulations, and therefore a waiver under Section 301(h) of the Clean Water Act may not be granted.[230]

C. The Sewage Plant Violates the Marine Mammal Protection Act

The Asplund Sewage Plant's violations of the MMPA also preclude reissuance of the 301(h) waiver.[231] The MMPA is one of the nation's primary defenses against threats to marine mammals such as the Cook Inlet beluga. The MMPA was adopted in 1972 to prevent the extinction or depletion of marine mammal stocks as a result of human activities.[232] Its goal is to protect marine mammals "to the greatest extent feasible commensurate with sound policies of resource management" and to "maintain the health and stability of the marine ecosystem."[233]

The MMPA prohibits the "take" of any marine mammal by any person, including any private entity or any department, instrumentality or political subdivision of the State or Federal government "or any political subdivision thereof."[234] "Take" is broadly defined in the MMPA as "to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal."[235] The MMPA specifically prohibits activities that have "the potential to injure a marine mammal," as well as activities that have "the potential to disturb a marine mammal . . . by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering."[236]

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[228] 16 U.S.C. § 1532(19) (2012) (definition of "take"); *Id.* § 1539(2)(B) (incidental take permit requirement).
[229] *Id.* § 1539(2)(B).
[230] 40 C.F.R. §125.59(a)(3) (2015).
[231] *Id.* § 125.59(b).
[232] 16 U.S.C. § 1361(1) (2012).
[233] *Id.* § 1361(6).
[234] *Id.* §§ 1371(a), 1372(2). Both EPA and AWWU are "persons" within the meaning of the MMPA and are therefore prohibited from taking actions with the "potential to injure" the Cook Inlet belugas. *Id.* § 1362(10) (definition of "person").
[235] *Id.* § 1362(13).
[236] *Id.* § 1362(18)(A).

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Continuing to discharge primary treated sewage into the Cook Inlet beluga's habitat, to the extent that is has a potential to injure belugas by sickening them, or to disrupt behavioral patterns, violates the plain terms of the MMPA.

Exceptions are only available with a permit from NMFS, which may be granted only if, *inter alia*, the agency finds that the taking is "incidental" and will have only "a negligible impact" on the species or stock at issue.[237] To our knowledge, neither the Sewage Plant nor EPA as the issuer of the permit have ever applied for or received such a permit. Without such a permit, the Sewage Plant is in violation of the MMPA.

D. Reissuance of the 301(h) Waiver Would Violate State and Federal Antidegradation Policy

Allowing the Sewage Plant to continue to discharge sewage that has only received primary treatment into Cook Inlet violates state and federal antidegradation policy. Waivers under Section 301(h) cannot be issued by a state under conditions that would violate the Clean Water Act or its regulations, including state and federal antidegradation requirements.[238] The Clean Water Act and federal regulations require that states create antidegradation policies to protect existing uses of water and prevent deterioration of water quality. [239]

Alaska's antidegradation policy mirrors the language of the federal antidegradation regulations and states that "existing water uses and the level of water quality necessary to protect existing uses must be maintained and protected." [240] An application for a permit renewal triggers analysis under the antidegradation policy "if the renewed permit would allow an increase in discharge of pollutants from what had previously been permitted."[241] If discharge increases, the burden is on the applicant to demonstrate the need for an increased discharge of pollutants. [242] Additionally, the applicant must justify other exceptions to water quality standards, such as waivers of treatment requirements.[243]

Anchorage's population will increase in the next several years, which will send more household waste to the Asplund Sewage Plant and result in more discharge of partially treated sewage into Cook Inlet. AWWU's own master plan cites an expected population increase of 0.8 percent annually between 2010 and 2033, from approximately

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[237] 16 U.S.C. § 1371(a)(5)(A) (2012). *See also Center for Biodiversity v. Salazar*, 695 F.3d 893, 903-07 (9th Cir. 2012); *NRDC v. Evans*, 279 F.Supp.2d 1129, 1141-42 (N.D. Cal. 2003).
[238] 40 C.F.R. §125.59(b)(3) (2015).
[239] 33 U.S.C. § 1313(d)(4)(B) (2012); 40 C.F.R. § 131.12 (2015).
[240] ALASKA ADMIN. CODE tit. 18, § 70.015(a)(1) (2003); *see* 40 C.F.R. § 131.12 (2015).
[241] *Interim Antidegradation Implementation Methods*, ADEC 3 (July 2010), http://dec.alaska.gov/water/wqsar/Antidegradation/docs/P&P-Interim_Antidegradation_Implemenation_Methods.pdf [hereinafter ADEC]. ADEC has no final implementation methods for its antidegradation policy.
[242] *Id.*
[243] *Id.*

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223,000 to 255,000 people.[244] In other words, nearly 20,000 additional people will be sending their sewage to the Asplund plant, a population increase of nearly nine percent over that time period. AWWU projects that the Asplund Sewage Plant's discharge will increase from 26.85 million gallons per day in 2014 to 30.36 million gallons per day of primary treated sewage in 2023.[245] This population increase and corresponding increase in sewage discharge – nearly four million gallons per day – triggers the state antidegradation policy.[246]

Alaska's antidegradation policy offers specific protections to waters that have water quality that "exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water."[247] The Knik Arm of Cook Inlet clearly falls within this category; the state of Alaska classifies this water body for all marine uses, including "water recreation" and "growth and propagation of fish, shellfish, other aquatic life, and wildlife."[248]

In waters that exceed levels necessary to support fish and wildlife populations, the Alaska Department of Environmental Conservation can approve a new or increased discharge that would degrade water quality *only* where the applicant demonstrates that "the resulting water quality will be adequate to fully protect existing uses of the water, [and] the methods of pollution prevention, control, and treatment found by the department to be the *most effective and reasonable* will be applied to all wastes and other substances to be discharged."[249] This policy requires that the Asplund Sewage Plant upgrade from primary to at least secondary treatment and probably tertiary treatment. Secondary treatment is certainly more effective than primary treatment,[250] and one cannot say that secondary treatment is unreasonable because it is the industry standard for municipal wastewater treatment plants. In Alaska, there are sixty-nine major NPDES permitted facilities, including twenty-two public wastewater treatment plants.[251] However, only nine of these facilities operate under a 301(h) waiver;[252] the rest provide secondary or tertiary treatment. Additionally, Anchorage is the second largest city to discharge wastewater with only primary treatment.[253] With the exception of San Diego – whose wastewater treatment plant is in the process of fully upgrading pursuant to a settlement agreement – all of the fifty largest cities in the United States employ secondary

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[244] AWWU Master Plan, *supra* note 288, at 23.
[245] *Id.* at 71.
[246] ADEC, *supra* note 24141.
[247] ALASKA ADMIN. CODE tit. 18, § 70.015(a)(2) (2003).
[248] EPA Fact Sheet, *supra* note 255, at 8; *see also* ALASKA ADMIN. CODE tit. 18, § 70.020(a)(2) (Alaska protected use classes).
[249] ALASKA ADMIN. CODE tit. 18, § 70.015(a)(2)(D).
[250] *See supra* Part I(B).
[251] *Publicly-Owned Wastewater Treatment Plants & the Section 301(h) Program*, ALASKA DEP'T OF ENVTL. CONSERVATION (June 9, 2008), https://dec.alaska.gov/water/cruise_ships/SciencePanel/documents/meeting_061010/Att_13_301%28h%29_Waiver_Handout.pdf.
[252] *Id.*
[253] See *infra* Table 1.

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treatment or higher.[254] Given that so many plants in Alaska and urban wastewater treatment plants across the country employ secondary or tertiary treatment, it is not unreasonable to require it of the Asplund Sewage Plant.

A 301(h) waiver also conflicts with the antidegradation policy requirements that an increased discharge be controlled to achieve the "highest statutory and regulatory requirements."[255] Under Section 301 of the Clean Water Act, the highest statutory and regulatory requirements demand that wastewater treatment plants utilize secondary and tertiary treatment before discharging treated wastewater.[256] In fact, the few facilities with 301(h) waivers are exceptional in that they have been allowed to avoid the requirements for secondary treatment that apply to municipal sewage plants nationally. Renewal of a 301(h) waiver would permit treatment that is far less than "the highest statutory and regulatory requirements" in contravention of Alaska's antidegradation standard. In light of its widespread use, secondary treatment should be the minimum required under Alaska's antidegradation policy.

In addition, the state antidegradation policy provides supplemental protections for waters that constitute "an outstanding national resource, such as a . . . water of exceptional recreational or ecological significance."[257] The designation of Cook Inlet as critical habitat for Cook Inlet belugas indicates that these waters are "of exceptional ecological significance," and argues strongly for strict adherence to the requirements of the antidegradation policy. Indeed, the inclusion of "the absence of toxins and other agents" harmful to the beluga as a critical habitat PCE underscores the importance of water quality protections in Knik Arm and argues strongly for protective measures for the critically endangered beluga.[258]

V. EPA Cannot Delay Its Decision Any Longer, and It Should Require the Asplund Sewage Plant to Upgrade As Soon As Possible

The Asplund Sewage Plant's 301(h)-modified permit has now been expired for over ten years. In light of this extended delay and its harmful impact on Cook Inlet beluga whales, EPA should deny the Asplund Sewage Plant's 301(h) application and require it to upgrade its facilities as soon as possible.

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[254] *Compare The Largest US Cities: Cities Ranked 1 to 100*, CITY MAYORS STATISTICS, http://www.citymayors.com/gratis/uscities_100.html (last visited Apr. 7, 2015), *with* Table 1.
[255] ADEC, *supra* note 24141.
[256] 33 U.S.C. § 1311 (2012).
[257] ALASKA ADMIN. CODE tit. 18 § 70.015(a)(3) (2003).
[258] *See supra* Parts II(C)(1)-II(C)(2).

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A. EPA Has "Unreasonably Delayed" Issuing a Decision Regarding the 301(h) Permit

In the Clean Water Act, Congress expressly stated that NPDES permits shall be established for "fixed terms, not to exceed five years."[259] Because the Sewage Plant's 301(h) application also functions as its NPDES application under the Clean Water Act, this same time limit applies to 301(h) waivers. The application for renewal of the Asplund Sewage Plant's 301(h) waiver has now been pending before EPA for nearly ten years, twice the amount of time for which the permit was effective. During that time, the permit has been administratively continued, and EPA has failed to issue a decision on the Asplund Sewage Plant's renewal application.

By failing to review this five-year permit for multiple permit cycles, EPA has unreasonably delayed its statutory duties under the Clean Water Act. When permits are required by federal law and a valid application for such permits is pending, the APA states that the agency that issues the permit must act "within a reasonable time" and "with due regard for the rights of interested parties and those adversely affected."[260] In evaluating the reasonableness of an agency action, courts give Congress's intent great weight.[261] The five-year timeframe is central to the Clean Water Act's design and architecture. Congress imbued the Clean Water Act with a "technology-forcing" regulatory structure designed to drive development of constantly improving pollution controls, force those controls on dischargers, and thus progressively reduce water pollution.[262] The five-year term limit for NPDES permits is key to this process.[263]

Delays in issuing this 301(h) permit decision are particularly unreasonable considering that since the Asplund Sewage Plant's permit was last renewed, Cook Inlet beluga whales have been listed as an endangered species and Knik Arm has been designated critical habitat for the belugas. While EPA continues to allow an administrative continuance of the waiver, the Asplund Sewage Plant is discharging partially treated effluent into Cook Inlet – degrading the water quality and exposing the endangered beluga whale population to pathogens and heavy metals that are harmful to their health. Even if EPA faces a backlog of expired permits, it should prioritize permits with the greatest environmental impact, such as this one. EPA should conform to Congress's legislative intent by making a timely decision on this rare type of permit allowing the discharge of primary treated wastewater into protected waters.

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[259] 33 U.S.C. § 1342(b)(1)(B) (2012).
[260] 5 U.S.C. §558(c) (2012).
[261] *See, e.g.*, *Sierra Club v. Thomas*, 828 F.2d 783, 797 (D.C. Cir. 1987).
[262] Claudia Copeland, *Clean Water Act: A Summary of the Law*, CONG. RESEARCH SERV. 2 (Apr. 23, 2010), http://cnie.org/nle/crsreports/10May/RL30030.pdf.
[263] *See Dubois v. USDA*, 102 F.3d 1273, 1294 (1st Cir. 1996) (stating that NPDES permitting is "[t]he most important component of the [Clean Water] Act").

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B. EPA Cannot Evade Its ESA Section 7 Duties by Delaying Action on the Asplund Sewage Plant's NPDES Permit

EPA's delay in reissuing the Asplund Sewage Plant's NPDES permit and reevaluating the NPDES waiver is especially troubling in light of its Section 7 Consultation Duties under the ESA.[264]

EPA cannot evade its duty to consult with NMFS regarding the 301(h) waiver's effects on the belugas by neglecting its duty under the Clean Water Act to evaluate the waiver every five years. ESA regulations provide that federal agencies "shall review [their] actions *at the earliest possible time* to determine whether any action may affect listed species or critical habitat. If such a determination is made, formal consultation is required."[265] Thus, ESA regulations established a requirement for urgent action on the part of federal agencies in accordance with the strong protections of the Act.

The Cook Inlet beluga was listed as an endangered species in 2008, a full three years after the Asplund Sewage Plant's permit expired.[266] In the intervening seven years, EPA has taken no action to review whether the 301(h) waiver has been harming the belugas in Cook Inlet, despite the requirement that it review its actions at the earliest possible time. If EPA had conformed to the timeline for NPDES permit review required by the Clean Water Act, it would have already reviewed the 301(h) waiver at least once in consultation with NMFS.[267] EPA cannot continue dragging its feet on its review of the 301(h) waiver, thereby avoiding its consultation duties under ESA Section 7.

C. EPA Should Require Treatment Upgrades As Soon As Possible

In addition to denying the Asplund Sewage Plant's request for a 301(h) waiver, we urge EPA to require treatment upgrades under the NPDES as soon as possible. During the ten years that the waiver has been administratively continued, the Sewage Plant has discharged billions of gallons of partially treated effluent into Cook Inlet, degrading the water quality and exposing the endangered beluga whale population to pathogens and heavy metals that are harmful to their health. Given the ample evidence presented throughout this letter that an application for a 301(h) waiver should be rejected, an upgrade to secondary treatment is required here to bring the Asplund Sewage Plant into compliance with the Clean Water Act, ESA, MMPA, and state and federal antidegradation requirements.

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[264] *See supra* Part IV(B)(1).
[265] 50 C.F.R. § 402.14(a) (2015) (emphasis added).
[266] Endangered Status for the Cook Inlet Beluga Whale, 73 Fed. Reg. 62,919 (Oct. 22, 2008).
[267] The Clean Water Act requires NPDES permit renewal every five years. 33 U.S.C. § 1311(d) (2012). The Asplund facility's permit expired in 2005, so the 301(h) waiver should have been reevaluated in 2005 and again in 2010. *See* ASPLUND SEWAGE PLANT 2005 PERMIT, *supra* note 16060, at 1. However, EPA has not reexamined the waiver since 2000 or issued a new permit.

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Both federal and state law requires the Asplund Sewage Plant to upgrade to secondary treatment without delay. Federal law requires compliance "as soon as possible," but not later than the five year permit term under the Clean Water Act.[268] Alaska state law requires that compliance with water quality standards be completed "in as brief a time as feasible."[269] In addition to denying the 301(h) waiver, EPA should require the Asplund Sewage Plant to upgrade their facilities as soon as possible in order to comply with federal and state statutory requirements and to protect beluga health.

VI. Conclusion

The Asplund Sewage Plant's application for reissuance of their 301(h) waiver must be denied. First, under the Clean Water Act, EPA cannot authorize the discharge of pollutants under a 301(h) waiver into saline estuarine waters that do not support a balanced indigenous population of shellfish, fish, and wildlife. In Cook Inlet, no such balanced indigenous population exists. Second, the Clean Water Act also prohibits discharge under a 301(h) waiver that interferes with the attainment of water quality for the protection of a balanced indigenous population of beluga whales. Third, the Asplund Sewage Plant has not consistently complied with the water quality standards set forth in its permit. Finally, the reissuance of this 301(h) waiver would violate the ESA, MMPA, and state and federal antidegradation requirements.

Further delay is unacceptable. Time is running out for Cook Inlet beluga whales. As the belugas struggle to maintain and rebuild their population, it is imperative that EPA act quickly to protect their health and habitat. Authorizing the discharge of primary treated wastewater into the most critical habitat for the belugas is simply unacceptable, especially four decades after the United States made secondary treatment the national standard for publicly owned wastewater treatment plants. Requiring the Asplund Sewage Plant to upgrade its wastewater treatment system is a clear and important piece of a broader conservation effort to ensure the survival of this magnificent whale and to fulfill our national obligation to preserve the quality of our marine waters. We therefore urge EPA to act swiftly to deny the Asplund Sewage Plant's 301(h) waiver and to require the plant to upgrade its water treatment facility.

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[268] 40 CFR § 122.47 (2015).
[269] ALASKA ADMIN CODE tit.18, § 70.910(b)(3) (2003).

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Table 1. Current List of 301(h) Waivers

Name[270]	State	Permit Status[271]	Population[272]
EPA Region I			
Bayville Village (Boothbay Harbor)	ME	Expired	2,165
Eastport	ME	Expired	1,331
Eastport/Quoddy	ME	Expired	1,331
Lubec	ME	Admin Cont	1,359
North Haven	ME	Effective	355
Northport Village (Belfast)	ME	Expired	1,520
Searsport	ME	Expired	2,615
Stonington	ME	Expired	1,043
Gloucester	*MA*	*Tentatively Denied*	*28,789*
Gosnold	MA	Admin Cont	75
EPA Region II			
Aguadilla	PR	Admin Cont	60,949
Arecibo	PR	Admin Cont	96,440
Bayamon/Puerto Nuevo	PR	Effective	208,116
Carolina	PR	Effective	176,762
Ponce	PR	Admin Cont	166,327
EPA IX			
Tafuna (Pago Pago)	*AS*	*Tentatively Denied*	*7,945**
Utulei	*AS*	*Tentatively Denied*	*684**
Goleta	*CA*	*Negotiated Settlement to Phase Out*	*29,888*
Morro Bay	*CA*	*Negotiated Settlement to Phase Out*	*10,234*
San Diego	CA	Effective	1,307,402
EPA Region X			
Anchorage	AK	Admin Cont	291,826
Haines	AK	Admin Cont	2,508
Ketchikan	AK	Admin Cont	13,477
Pelican	AK	Admin Cont	88
Petersburg	AK	Admin Cont	2,948
Sitka	AK	Admin Cont	8,881
Skagway	AK	Admin Cont	968
Whittier	AK	Admin Cont	220
Wrangell	AK	Admin Cont	2,369

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[270] List based on ENVTL. PROT. AGENCY, INFORMATION COLLECTION REQUEST (ICR) SUPPORTING STATEMENT FOR THE 301(H) PROGRAM, OMB Control No. 2040-0088 (2014), http://www.regulations.gov/!documentDetail;D=EPA-HQ-OW-2003-0033-0024, and updated to reflect recent EPA decisions in Honouliuli and Sand Island.

[271] Reflects data from ECHO Reports found online at http://echo.epa.gov/ (last visited Apr. 8, 2015).

[272] Based on 2010 U.S. Census data, except where noted.

*American Samoa data was obtained from DEPT. OF COMMERCE, STATISTICS DIVISION, AMERICAN SAMOA STATISTICAL YEARBOOK 2012, http://www.doc.as/wp-content/uploads/2011/06/2012-Statistical-Yearbook-1.pdf.

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