

MOST ELECTRIC POWER PLANTS REQUIRE LARGE QUANTITIES OF WATER TO OPERATE.

In fact, electrical power production is responsible for nearly half of all water used in the United States, according to the U.S. Geological Survey. All five National Grid plants on Long Island use once-through cooling systems, where water is withdrawn from a nearby body of water, diverted through a condenser to absorb heat, and then discharged back into the water it was drawn from, but at an elevated temperature. Because once-through cooling systems do not recirculate the water they draw in, they can use as much as a billion gallons per day.

ENDNOTES

- 1 This estimate is based on flow rates and numbers of fish collected during the respective study year for each plant by consultants to National Grid. The study year range is 2003-2006. Water withdrawal estimates represent the design capacity of the five National Grid power plant's cooling water systems and vary depending on electricity load demand. It is important to note that annual variations in cooling water use and fish abundances can have a substantial effect on the numbers of organisms impinged and entrained in any given year.
- 2 This number represents the capacity of the five plants' cooling systems. Actual daily cooling water use varies, depending on customers' electricity demands.
- 3 Annual variations in cooling water use and fish abundance can have a substantial effect on the numbers of organisms injured or killed in any given year.

ACTIONS

Please let your voice be heard by submitting your comments as each power plant's draft permit is made public, emphasizing the following points:

- Long Island's coastal resources are critical to the region's economy and way of life.
- The fishing industry along Long Island Sound and the South Shore has experienced extreme declines over past decades.
- National Grid must take responsibility for their aging power plants.
- The New York State Department of Environmental Conservation should ensure that National Grid uses the best technology available to dramatically reduce fish kill and marine life damage by requiring the utility to outfit the plants with closed-cycle cooling.

Please email or mail your comments to:

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ACTIONS

MORE

Find out more on our website—
www.citizenscampaign.org/powerplants



www.citizenscampaign.org

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ABOUT CITIZENS CAMPAIGN FOR THE ENVIRONMENT (CCE)

CCE is a non-partisan advocacy organization supported by over 80,000 members working to protect public health and the natural environment.

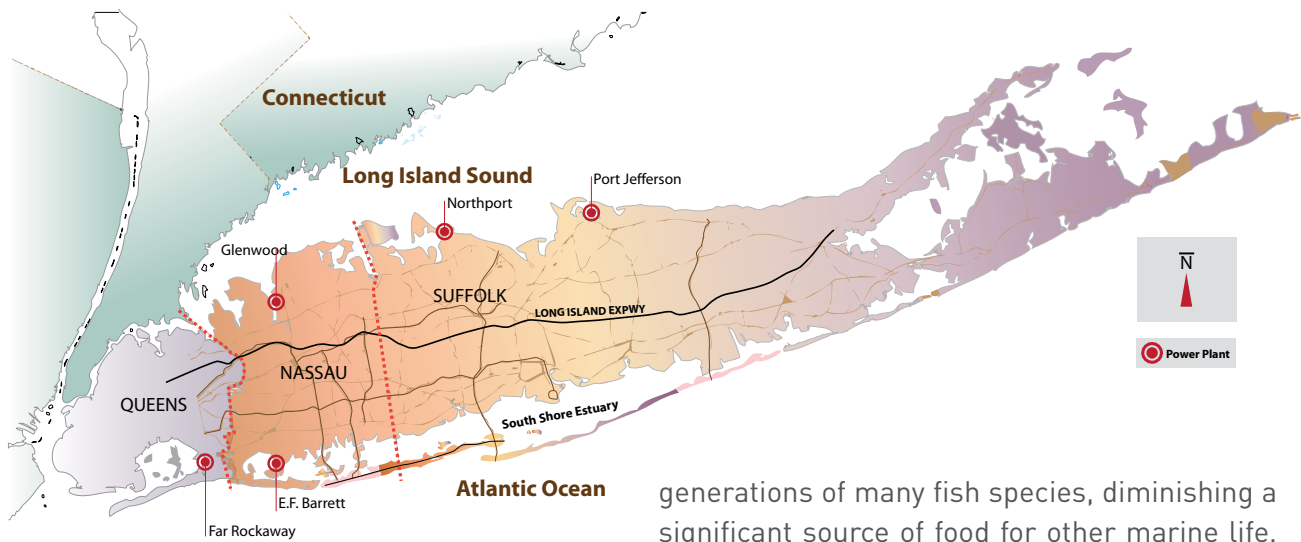
**Empowering Communities,
Advocating Solutions.**

NATIONAL GRID POWER PLANTS

KILL

BILLIONS OF FISH

**Demand fish-friendlier
power for Long Island**



Many of us on Long Island know that power plants pollute the air and contribute to climate change. However, you may not realize that these same plants kill and injure billions of fish, and disturb marine ecosystems.

As Long Islanders, we prize coastal waters and the many benefits they provide, from recreation to economic survival, as well as their historic role in the founding of our communities. Today, habitat loss, pollution, invasive species, and climate change all threaten the local marine environment and our way of life, with antiquated power plants owning a significant share of the blame.

National Grid's five Long Island power plants can withdraw nearly two billion gallons of coastal water each day for their cooling systems², drawing in and killing more than 10 billion fish, fish eggs and larvae each year, and trapping, injuring and, in many cases, killing 400,000 larger fish on intake screens.³ The result is rapidly shrinking subsequent

generations of many fish species, diminishing a significant source of food for other marine life. This unacceptable and avoidable destruction of valuable coastal resources also comes at a time when Long Island's fishing industry is struggling to survive.

The New York state Department of Environmental Conservation (DEC) recently released draft five-year State Pollutant Discharge Elimination System (SPDES) permits for the Port Jefferson Power Station and the Glenwood Power Station. The public has until October 7th and September 28th, respectively, to submit comments. The DEC is also reviewing SPDES permits and "best technology available" options for the Northport, E.F. Barrett and Far Rockaway power plants. Draft SPDES permits for these other plants will be released one-by-one over the course of the next few years. The state's permit renewal



Annual entrainment and impingement rates at the five National Grid power plants¹

Facility	Owner	Megawatts Generated	Water Withdrawn (MGD)	Water body	Entrainment	Impingement
E.F. Barrett	National Grid	384	294	Barnum's Cove	906,259,233	176,044
Far Rockaway	National Grid	109	84	Jamaica Bay	117,662,685	6,560
Glenwood	National Grid	210	179	Hempstead Harbor	177,879,210	9,562
Northport	National Grid	1,522	939	L.I. Sound	8,430,808,238	127,118
Port Jefferson	National Grid	392	294	Pt. Jeff. Harbor	1,014,950,951	76,104

process affords us the opportunity to make sure that straightforward, proven technologies are put in place to reduce or eliminate the plants' damage to coastal waters.

The "best technology available" already exists to stop this environmental destruction; closed-cycle cooling—the industry standard for new power plants—reduces power plant water intake by over 95 percent through recirculation, reducing the amount of marine life destroyed by a similar percentage.

Through the permit process, the New York State Department of Environmental Conservation (DEC) should ensure that National Grid takes responsibility and uses the best technology available to dramatically reduce fish kill by retrofitting the plants with closed-cycle cooling. National Grid should also strongly consider retiring underutilized power plants or units.

FOR EVERY 10,000 FISH KILLED BY PLANTS USING ONCE-THROUGH COOLING WATER SYSTEMS, ABOUT 9,500 WOULD BE SAVED BY CLOSED-CYCLE COOLING.

In addition to DEC's permit requirements, both the Long Island Power Authority and National Grid should invest more in energy efficiency and renewable generation. The lowered electricity demand on the plants could result in decreased operating time, leading to lower water withdrawals and less destruction of fish and other marine life.