

COASTAL ZONE ACT
ASSESSMENT REPORT

October 1999- December 2004

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**Prepared by the Delaware
Department of Natural Resources
and Environmental Control**



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PREFACE

This report is published pursuant to the Memorandum of Understanding dated March 19, 1998, which instructs the Department of Natural Resources and Environmental Control to publish an assessment report within one year of developing the official "Regulation Governing Delaware's Coastal Zone." This report, which summarizes all major activity in the CZA Program from 1999 through 2004, is updated every two years. This report represents the third edition of the CZA Assessment Report.

BACKGROUND

In June 1971, Delaware was the first state to protect its coastal lands and waters from environmentally harmful industrial development by enacting Delaware's Coastal Zone Act. Since then, under the 1972 Federal Coastal Zone Management Act, twenty-seven coastal states (and territories) have established coastal management programs involving regulation of coastal land and water uses to some degree or another. Delaware's early recognition of the value of its coastal resources and the decision to protect them for the benefit of present and future populations set a national precedent.

Enactment of the Coastal Zone Act was a result of steep concern of many citizens and public officials in Delaware over the likelihood of the construction of a large new petroleum refinery and a deepwater terminal for supertankers and related heavy industries in areas of the Coastal Zone not yet industrialized. Land ownership and some local zoning policies (or lack of policies) indicated that such industrialization was a real possibility. The absence of a State policy toward industrial growth in the Coastal Zone and regulatory authority over it left the State in a position of not having an effective voice in the use of the uniquely valuable and environmentally sensitive resources of the Coastal Zone.

As a result of this situation and public concern, Governor Russell Peterson appointed a task Force on Marine and Coastal Affairs in early 1970 to examine the situation and advise him on a proper course of action to protect the State's interest in use and protection of its coastal resources. In February 1971, the task Force completed a preliminary report recommending that industries with high environmental quality standards be encouraged, but that no further incompatible industries be allowed in the Coastal Zone. Incompatibility would be determined on the basis of quantities and types of pollutants and the magnitude of adverse environmental effects resulting from the nature of the industry. The Task Force also recommended prohibiting a deepwater port facility in the Delaware Bay. The report emphasized the recreational values of the Coastal Zone for Delawareans and for visitors from other states.

Shortly after the release of the Task Force's preliminary report in the spring of 1971, Governor Peterson introduced legislation in the General Assembly (HB 300) which followed the recommendations of the Task Force on marine and Coastal Affairs as to what should be regulated and what should be prohibited. On June 28, 1971, Governor Peterson signed the Coastal Zone Act into law, (Title 7, Chapter 70, Delaware Code).

Since the law's enactment in 1971, there have been several proposals to amend the law. However, only five amendments have been adopted.

In 1979, Section 7002 was amended by adding onshore support facilities for Outer Continental Shelf oil and gas activities to the list of industrial land uses not prohibited as heavy industry uses.

November 1, 1981, administration of the Coastal Zone Act was moved from the Office of Management, Budget and Planning to the Department of Natural Resources and Environmental Control.

The other amendments enacted in 1983 and 1988 allowed a nonconforming steel manufacturing plant at Claymont to retain its nonconforming use status after temporarily discontinuing operations. This legal, nonconforming facility is now operating as Citisteel.

In 1992, the General Assembly amended Section 7004 of the Act, to allow existing heavy industry uses and bulk product transfer facilities to expand if a Coastal Zone Permit is acquired.

In 1999, the General Assembly passed HB 330, which defined incinerators as a prohibited use in the Coastal Zone.

THE GEOGRAPHY OF THE COASTAL ZONE

As described in Section 7002 of the Act, the Coastal Zone includes Delaware's territorial waters of the Delaware River and Bay and the Atlantic Ocean and includes Delaware's part of the Chesapeake and Delaware Canal. On land, the Coastal Zone boundary follows a series of roads and highways including parts of such major roads as Routes I-495, 13, 113 and 1. The width of the land in the zone varies from about a hundred yards north of Wilmington to twelve miles between the Indian River Inlet and Millsboro on the south, averaging about four miles in width. North of Artificial Island (opposite Augustine Beach) the Coastal Zone extends across the Delaware River to the mean low water on the New Jersey side, thus affecting offloading facilities such as docks and piers serving industrial facilities in that state. *Please see the State map on the next page for the precise boundaries of the Coastal Zone.*

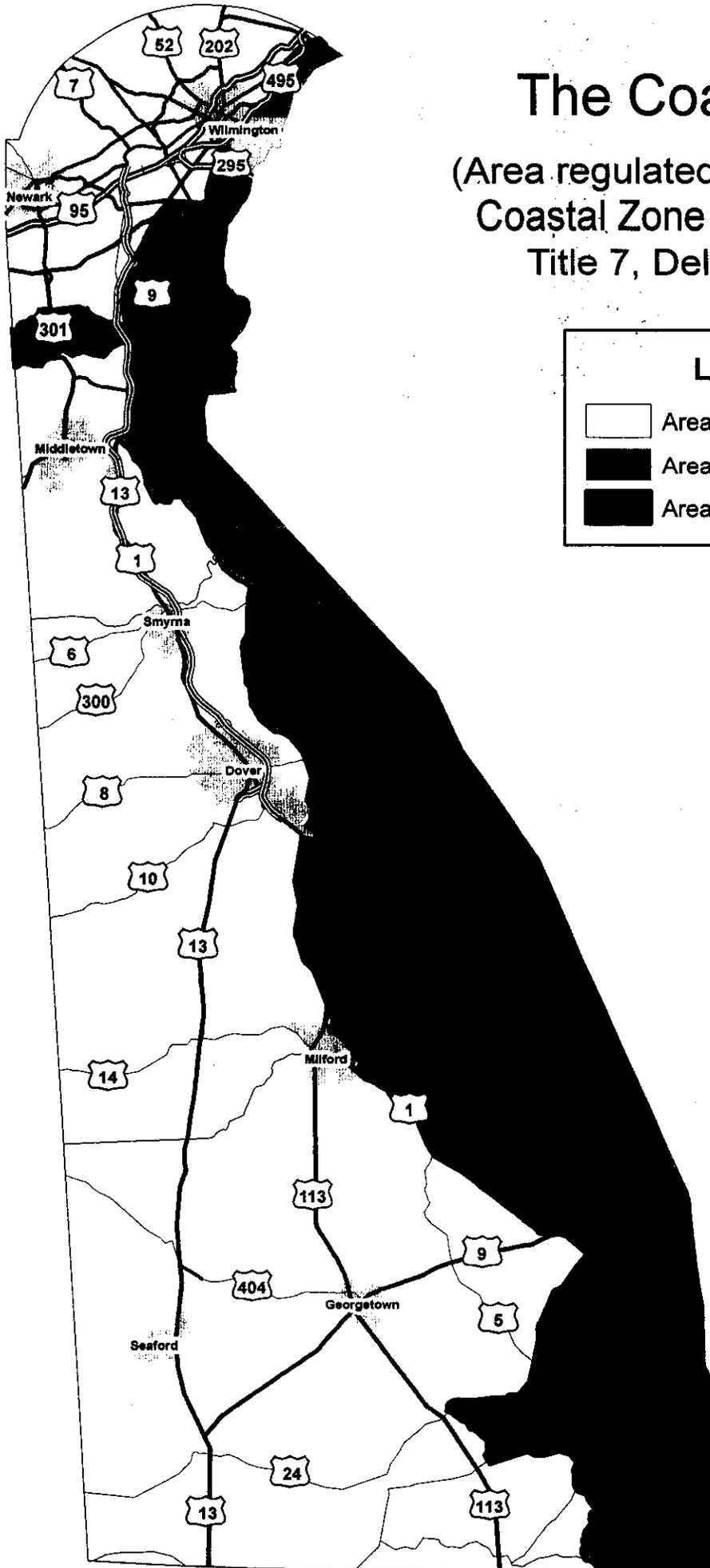
Current Zoning and Land Use

In New Castle County much of the Coastal Zone north of the Chesapeake and Delaware Canal is zoned for manufacturing and industries. South of the canal, in that county and in Kent County, much of the land is State or Federally owned and none of it is zoned for industry except for a jet fuel tank farm facility east of Little Creek. In Sussex County the predominant land and water uses are recreation and tourism with only a few areas zoned for manufacturing, notably the Indian River Power Plant, Townsend's Feed Mill, the Intervet plant near Millsboro and the SPI (Barcroft) plant in Lewes. Most uplands not in use for recreation are zoned for agricultural or residential uses.

As expected, the current use of land within the Coastal Zone reflects the prescribed uses of land authorized by local zoning authorities. The one exception to this is in northern New Castle County where considerable land is zoned by the County for heavy industry. The Coastal Zone Act acts as a veto over local zoning where such local zoning allows for new heavy industry use and strictly prohibits new heavy industry use in the Coastal Zone. However, existing

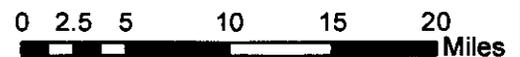
The Coastal Strip

(Area regulated by the Delaware Coastal Zone Act Chapter 70, Title 7, Delaware Code)



Legend

- Area Not Regulated
- Area Regulated - Water
- Area Regulated - Land



(nonconforming) heavy industry can expand to a limited extent, provided a Coastal Zone Permit is acquired.

There are strong land use conflicts within and immediately adjacent to the Coastal Zone. There are several examples of industrial and manufacturing plants within a mile of established residential areas. Such close proximity of vastly differing land uses has led to strong disputes in the past twenty years.

Of Delaware's approximately 800,000 citizens, only about 25,000 to 35,000 reside year-round in the Coastal Zone. However, in the summer many more thousands vacation there to enjoy the zone's valuable amenities, primarily the ocean beaches and offshore recreational fishing.

Residential land use in the zone has increased considerably since 1971, especially in Sussex County around the Inland Bays. However, heavy industrial land use has not increased in the zone. Indeed, since 1971, it may have diminished through the loss of the Amoco refinery near New Castle and the Akzo chemical plant near Delaware City. The General Chemical plant in Claymont has closed and lost its heavy industrial nonconforming land use rights. Kaneka Delaware and MetaChem in the Delaware City area have likewise closed and lost their right to conduct heavy industrial uses. Once an industrial land use has ceased operations for two years, as provided for in the Act, the heavy industry use has expired and cannot be restored.

Economic Assets

The Coastal Zone has traditionally been a major employment center for the state of Delaware. These major employers include but not limited to Valero, Citisteel, General Chemical, Dupont Edgemoor, SPI Polyols, Avecia, Print Pack, Zenith Products, Kuehne, Oxychem, Formosa, Ineos Films, IKO Manufacturing, SPI Pharma, Intervet and Vlastic. Manufactures located in the Coastal Zone employed 13,000 individuals at an average salary of \$42,000. These industries had a gross state product impact of \$1,284,266,045.00 generating approximately \$17,000,000.00 in personal income taxes to the State of Delaware. The Coastal Zone currently represents 37.25% of all manufacturing within the state of Delaware. Non manufacturing employment has grown as a result of increased economic activity in industrial parks located within the Coastal Zone such as Twin Span, Riveredge Industrial Park and Centerpoint Industrial Park. Tenants to these parks include for example DNREC SIRB Branch, TA Instruments, Amazon.com and a recent expansion of Nixon Uniform.

The Coastal Zone is a critical part of the economic development within the State of Delaware and will continue that importance into the future.

Environmental Quality of the Coastal Zone

The environmental quality of the Coastal Zone is generally good, but conditions vary considerably between different locales and over time. Water quality of the coastal streams has improved since 1971, particularly in regard to fecal coliform bacteria and dissolved oxygen

levels. The quality of the Delaware River has improved dramatically since the 1950's. The "lower" Delaware Bay continues to be a high quality estuary. The one possible exception to the generally improving water quality situation is that of Delaware's Inland Bays. These sensitive, shallow bays have exhibited lower water quality since the early '70's. The overall improvement in the zone's water quality cannot be attributed entirely to the Coastal Zone Act. However, the Act's total prohibition on new heavy industry has surely been a major help.

Air quality, as measured by those pollutants most directly related to industrial activity in the Coastal Zone, i.e. particulate matter, sulfur dioxide, lead, and nitrogen oxides, is much better than what is required under the National Ambient Air Quality Standards. All of Delaware, including the Coastal Zone, is however considered a non-attainment area for ozone. While the degree of the ozone problem has improved over the past 20 years, its continued persistence can be primarily attributed to the increased use of automobiles and transported pollution from upwind States. There have been no new major industrial plants constructed in Delaware since the mid-70's.

The natural habitat of the Coastal Zone contains many living treasures. The zone contains numerous plants and animals rare in Delaware and several that are rare in America. In 1992, the United Nations declared the Delaware Bay a "global resource." The success or mere existence of several bird species such as the Piping Plover's continuing existence in Delaware is dependent upon the Delaware Bay Estuary. Several recreationally and commercially important species of fish utilize the marine resources of the Coastal Zone for spawning. Such species include the Atlantic Sturgeon, Striped Bass (Rock Fish), Sea Trout, Flounder and several species of herrings.

Today, loss of natural habitat in the Coastal Zone is primarily from nonmanufacturing land uses, especially home building around the Inland Bays. The State has little or no authority in local land use or zoning issues. However, the DNREC along with other agencies provides advice to the State Office of Planning and Coordination on major development proposals in the Coastal Zone.

ENVIRONMENTAL GOALS OF THE COASTAL ZONE

The Department of Natural Resources and Environmental Control has developed a set of Coastal Zone Environmental Goals for the Coastal Zone Act Program. Staff of the Delaware Coastal Management Program conducted several daylong seminars with various scientists, environmental groups, and the administration to develop a set of environmental goals specifically for the Coastal Zone. After much discussion and research, the four goals below were developed and agreed upon. These goals will be helpful in reviewing applications for Coastal Zone Act Permits. These goals will help the Department construct various environmental indicators. When established, these indicators will quantitatively depict whether the environment of the Coastal Zone is improving or not. However, it is vital to note that the environmental indicators may not explain why trends are occurring or who is responsible, if any. Therefore, the environmental indicators may have a minimal value in deciding specific permit decisions.

Coastal Zone Environmental Goals

Habitat/Land Cover

Protect the mosaic of land cover in the Coastal Zone, including upland, wetland, shoreline and aquatic areas, to ensure a healthy ecosystem. Encourage appropriate land use and land cover. Ensure the protection of natural vistas in the Coastal Zone for public enjoyment.

Air Quality

Improve air quality, which directly or indirectly affects all forms of life within the Coastal Zone.

Water Quality

Improve water quality and quantity, which directly or indirectly affects all forms of life within the Coastal Zone.

Living Resources

Preserve and maintain healthy native animal and plant populations, or biodiversity, in the Coastal Zone. Preserve and improve the ability of non-invasive populations to live and thrive in the Coastal Zone.

ENVIRONMENTAL PROBLEMS OF THE COASTAL ZONE

Delaware's Coastal Zone faces two serious problems. The first is that of air quality versus Federal standards. New Castle and Kent counties are considered severe non-attainment areas for ozone. Sussex County is considered marginal non-attainment for ozone. The reasons for this non-attainment status are complex and will not be discussed here.

A second major problem is that of urban sprawl. Natural resources are being destroyed to provide space for new housing. Farmland is being converted away from agricultural use to urban/suburban residential housing and commercial land uses. Such sprawl is a significant source of air pollution as a result of increased automobile use, and a significant source of water pollution due to stormwater runoff. Sprawl also generates an additional demand to treat wastewater, either in septic tanks or expanded sewage treatment plants. This sprawl is particularly apparent in eastern Sussex County. There is also large-lot housing in New Castle County south of the Town of New Castle. The Coastal Zone Act does not regulate residential land uses.

Little land has been lost to new (permitted) manufacturing uses. Many of the Coastal Zone Act Permit applications received at the Department in the last several years are for new uses at existing facilities, new facilities in existing buildings, or expansions at the Port of Wilmington. No new heavy industry has been allowed in the Coastal Zone.

AIR QUALITY

Current Status

Delaware has been measuring air quality for over 20 years and is required by federal statute to monitor levels of specific gases known as *criteria pollutants* on an hourly basis. Of all the air pollutants that are monitored and have clean air standards, only ozone occurs at levels that are above the federal standard and are classified as “unhealthy.” Ozone is a colorless gas that is the main ingredient of smog. Ground-level ozone is a severe public health concern. It damages lung tissue, aggravates respiratory conditions, and makes people more susceptible to respiratory infections. Children and the elderly are especially vulnerable to ozone’s harmful effects. Ozone also causes damage to sensitive species of plants and agricultural crops. Ozone is formed when a chemical reaction occurs between pollutants in the lower atmosphere on hot, sunny days. The air pollutants contributing most to ozone formation are *volatile organic compounds* and *nitrogen oxides*. There are many sources of both of these pollutants in the Coastal Zone; large and small industrial facilities, motor vehicles, chemical solvents, and natural sources. These chemical compounds can be carried far from their sources before reacting to form ozone. Ozone, or the compounds that form it, can be blown into the Coastal Zone from upwind areas such as Baltimore and Washington, DC and sources even further west. Ozone levels regularly reach unhealthy concentrations in the summer in the northern Coastal Zone.

Air Pollution and Water Quality

Pollution deposition is another problem affecting the Coastal Zone. This occurs when chemicals in the air are washed out by rain or settle out as dry particles. Acid rain and nitrogen compounds are the chief pollutants deposited in this manner in the Coastal Zone. Acid rain can harm aquatic life in lakes and streams, damage vegetation, and erode masonry structures and statues. Nitrogen compounds can also affect rainwater acidity and add to the nitrate load (excess nutrients) of water bodies. The pH of rainwater in the Coastal Zone is acidic, ranging between 4.2 and 4.3 (clean rain is 5.6). While few measurements have been made of nitrogen deposition in the Coastal Zone, research in nearby states indicates that a significant amount of nitrogen is entering the ecosystem from atmospheric pollution. Many other chemicals known or suspected to be capable of causing harm to people can be detected in air in very low concentrations. These chemicals are often referred to as *air toxics* and can come from many sources including industrial facilities, transportation sources, and chemical processes. There are no acceptable official standards for outdoor air concentrations of these chemicals; instead they are controlled through permit limits placed on industry.

WATER QUALITY

As recently as 1975, the Delaware Coastal Zone routinely experienced serious water pollution and public health problems as a result of the discharge of untreated sewage and wastes. Since then, as a result of voluntary efforts, regulatory actions and significant private and public investments in wastewater treatment facilities, localized improvements in water quality have been achieved.

The need for additional cleanup and pollution prevention continues. The focus of water quality management has shifted from point source discharges (end-of-pipe) to decreased stream flows and nonpoint source problems, such as urban and agricultural runoff, erosion, and sedimentation. Unaddressed, these problems lead to poor habitat conditions for fish and other

aquatic life, decreased enjoyment of our surface waters for recreation, and unhealthy conditions for those surface waters of the Coastal Zone.

RIVERS and LAKES of the COASTAL ZONE

Delaware's Coastal Zone has many miles of rivers and streams that have been classified using a rating system called for in the Federal Clean Water Air Act. The classification system is keyed to a management program designed to protect uses of the waters (referred to as "designated uses") for such purposes as drinking water supply, recreation, and the propagation of fish, aquatic life and wildlife. These designated uses serve as Delaware's water quality goals for specific watersheds. In order to protect those uses, a comprehensive set of chemical, biological, and habitat standards has been promulgated. Designated uses and standards are embodied in the State of Delaware Surface Water Quality Standards as amended on July 11, 2004.

The Department of Natural Resources and Environmental Control has found that many of Delaware's Coastal Zone rivers and streams do not fully support fish and wildlife use. Most of these waters do not meet the standards because of nonpoint source pollution impacts.

FISH CONSUMPTION ADVISORIES

Toxic substances such as Polychlorinated Biphenyls (PCB's), metals and pesticides persist in the environment and accumulate in the flesh of fish. The following table lists the current fish consumption advisories (recommended limitation on the consumption of particular fish species) issued jointly by the Delaware Department of Natural Resources and Environmental Control and the Department of Health and Social Services, as of March 2004.

Delaware Fish Consumption Advisories in Coastal Zone as of March 2004				
Waterbody	Species	Geographical Extent	Contaminants Of Concern*	Advice
Delaware River	All Finfish	Delaware State Line to the C&D Canal	PCBs, Dioxin, Mercury, Chlorinated Pesticides	No Consumption
Red Lion Creek	All Finfish	Route 13 to the Delaware River	PCBs, Dioxin	No more than three 8-ounce meals per year
Lower Delaware River and Delaware Bay	Striped Bass, Channel Catfish, White Catfish, American Eel, White Perch, Bluefish	C&D Canal to Delaware Bay Mouth	PCBs, Mercury, Dieldrin	No more than one 8-ounce meal per year; No more than one 8 ounce meal per year for bluefish less than 24 inches. Do not eat bluefish larger than 24 inches.
Tidal Brandywine River	All Finfish	River Mouth to Baynard Blvd.	PCBs	No Consumption
Shellpot Creek	All Finfish	Philadelphia Pike to the Delaware River	PCBs	No Consumption

Tidal Christina River	All Finfish	River Mouth to Smalley's Dam	PCBs, Dieldrin	No Consumption
Chesapeake & Delaware Canal	All Finfish	Entire Canal in Delaware	PCBs	No Consumption
Appoquinimink River	All Finfish	Tidal Portions	PCBs, Dioxin	No More than one 8-ounce meal per year
Drawyers Creek	All Finfish	Tidal Portions	PCBs, DDT	No More than one 8-ounce meal per year
St. Jones River	All Finfish	River Mouth to Silver Lake Dam	PCBs, Dioxin	No More than two 8-ounce meals per year

* The pollutant listed first is of the greatest concern in this system.

General Changes or Trends in Water Quality

As a result of water quality protection programs that are in place in Delaware, in general surface water quality in Delaware's Coastal Zone has remained fairly stable in spite of increasing development and population growth. Impacts to waters are generally the result of past practices or contamination events, activities that are not regulated or otherwise managed, or changes that are occurring on a larger regional scale. For example, air pollutants from sources outside of Delaware contaminate Delaware's surface waters via rainfall.

Improvements in water quality have been documented in localized areas where point discharges were eliminated or better treatment installed. Basin-wide water quality improvements in waters that are being impacted by historical contamination of unquantified pollution sources are very difficult to detect over a short period of time. Targeted monitoring over long time periods (years) is necessary in order to detect changes.

Although Delaware's surface water quality may not have changed significantly over the last several years, there have been many improvements made in watershed assessment approaches and methodologies. Additionally, many water quality criteria are stricter as a result of amendments to the State's Water Quality Standards. Therefore, we have become more proficient at identifying water quality problems and, at the same time, are calling for higher quality waters.

The stability of Delaware's surface water quality is likely the result of increased efforts to control both point and nonpoint sources of pollution. In addition to the significant investments in wastewater treatment technologies, many private business interests are investing in practical and cost-effective nonpoint source pollution control practices (Best Management Practices) on farms, residential developments, and commercial and industrial sites. Likewise, public agencies such as the Delaware Department of Transportation are investing revenues in improved storm water management practices and wetlands creation to mitigate the impacts of maintenance and new highway construction activities.

Ground Water Quality

The ground water resources of Delaware are generally abundant and of high quality. Ground water quality can be degraded locally by both natural and man-induced causes. The most common naturally occurring problem is dissolved iron that is derived from iron-containing minerals. Chloride and high-dissolved solids are also found along the coastal area of the Delaware Bay, Inland Bays, and the Atlantic Ocean. These contaminants are also found at varying depths below the land surface within the various aquifers. Man-induced ground water quality problems occur from both point sources and non-point sources of contamination. Generally speaking, nutrient problems are most prevalent in southern Delaware while urban/industrial problems are most prevalent in northern Delaware.

In the Inland Bays region of the Coastal Zone, ground water resources provide all of the drinking water needs in the area as well as other freshwater needs such as irrigation and agriculture. Other than naturally occurring dissolved iron, the most common contaminants are nitrates with the major sources being septic systems, animal operations, and application of fertilizer and manure. Chloride problems remain a concern along the coastal reaches of the Atlantic Ocean and the Inland Bays.

The shallow unconfined aquifers are the most commonly impacted but impacts have also been seen in some deeper aquifers. Dissolved iron is the most common ground water quality problem but is naturally found in various parts of aquifers. The most common man-induced contaminant found in public drinking water systems are nitrates. Nitrates are derived primarily from septic systems and the land application of fertilizer and manure. Levels above 10 milligrams per liter exceed the U.S. EPA maximum contaminant level for public drinking water systems. Other contaminants found in public drinking water system but at very low frequencies are lead (likely the result of old home plumbing), volatile organic compounds, and some pesticides. The Division of Public Health responds to exceedences of drinking water standards by requiring the supply owners reduce contaminant concentrations to below drinking water standards.

Point sources of contamination to ground water include septic systems, petroleum storage tanks, hazardous and solid waste sites, and other regulated sites. Statewide, the largest number of sites is domestic septic systems estimated at 78,000. Over half of these are found in Sussex County. Leaking underground storage tank sites may also be a source of contamination.

State of Delaware Total Maximum Daily Program (TMDL)

Section 303(d) of the Federal Clean Water Act (CWA) requires States to develop a list of water bodies for which existing pollution control activities are not sufficient to attain applicable water quality standards (303(d) list) and to develop total Maximum Daily Loads (TMDLs) for pollutants of concern. A TMDL sets a limit on the amount of a pollutant that can be discharged into a waterbody such that water quality standards are met.

The State of Delaware is operating under a court-approved Consent Decree to establish TMDLs for all impaired streams on the State's 1996 303(d) list by the end of 2006. So far, the State has established TMDLs for the following watersheds of the Coastal Zone or a portion thereof:

Appoquinimink River watershed. The TMDL for the Appoquinimink River watershed was established in January 1998. The Appoquinimink River TMDL requires reduction of nutrients and organic loads from point and nonpoint sources in the watershed.

Inland Bays Watershed. The TMDL for Indian River, Indian River Bay, and Rehoboth Bay was established in December 1998. The TMDL requires systematic elimination of all point sources of nutrients in the sub-basin. Furthermore, it requires that nonpoint sources of nutrients (nitrogen and phosphorous) be reduced by 40 to 85 percent. The Little Assawoman Bay TMDL was promulgated in December 2004. It requires nonpoint source loads of nitrogen and phosphorous to be reduced by 40%.

Murderkill River Watershed. A TMDL was originally established in December of 2001. As a result of legal challenges and subsequent studies and improvements to technical tools utilized to develop the TMDL, the Department amended the TMDL in May of 2005. The TMDL requires substantial reductions in point source nutrient loads, a 30 % reduction in nonpoint source nitrogen loads and a 50 % reduction in nonpoint source phosphorous loads.

In addition to the above established TMDLs, the DNREC is planning to develop TMDLs for Army Creek, Blackbird Creek, Broadkill River, Cedar Creek, Mispillion River, Red Lion Creek, Smyrna River and the St. Jones River by December 31, 2006.

Once a TMDL has been established, an implementation strategy is needed to achieve the required pollution reductions. Such a strategy is known as a Pollution Control Strategy, or PCS. Each basin in the Coastal Zone has a PCS, or one is presently being developed. Every PCS has a Tributary Action Team that guides the PCS to successfully implement the TMDL. The Pollution Control Strategy may include a combination of more than one pollution-reducing method. Methods could include:

- The removal of point source discharges from the waterway.
- Better management of fertilizer and manure.
- Replacement of failing on-site septic systems with environmentally safer sewer systems.
- Protective agricultural practices such as the planting of vegetative buffer strips between cropland and waterways.

Each Tributary Action Team decides which approaches are most efficient in its watershed, based upon extensive study, comments of citizen forums, advice from experts and discussions at public team forums. For additional information about TMDL's and PCS's in the Coastal Zone, contact the Department's Division of Water Resources, Office of Watershed Assessment at 739-9939.

USDA Conservation Program

The objective of current programs will focus on conservation of soil, water, and related resources, water quality protection and improvement, wetland restoration, protection and creation, and wildlife habitat development and protection. More detail on the programs the USDA sponsors can be obtained by contacting the appropriate USDA agency for more specific information.

WATER USES of DELAWARE RIVER and BAY

The table below depicts the amount of area (in square miles) of the Delaware River and Bay (including the New Jersey portion) that supports the Delaware River and Bay Commission's (DRBC's) designated uses, as reported by DRBC.

DRBC Individual Use Support Summary For 2000-2002
Waterbody: DELAWARE ESTUARY/BAY (zones 5, 6) (in square miles)

Use	Size Assessed	Size Fully Supporting	Size Not Supporting or Insufficient Data
Aquatic Life	782	56	726
Fish Consumption	782	0	0
Shellfishing	693	652	41
Primary Contact Recreation	783	368	415 (all insufficient)
Secondary Contact	Not Assessed		
Drinking Water	Not Assessed		

Living Resources/Rare & Endangered Species**Living Resources**

The Coastal Zone, including the Chesapeake & Delaware Canal and the inland bays contains approximately 273,000 acres. Excluding open water portions within this area, approximately 232,000 acres of wetlands and uplands are found within the Coastal Zone (CZ). In 2004, the DNREC identified sixty-one percent of this figure, or 141,520 acres for protection in eight different coastal State Resource Areas (SRAs) listed below. In New Castle County this acreage includes the Upper & Lower Delaware River SRAs, as well as the Chesapeake & Delaware Canal SRA. Kent County includes Bombay Hook, St. Jones River, and Milford Neck SRAs. Sussex County includes Prime Hook, Cape Henlopen, and the Inland Bays SRAs. Of the approximate 141,520 acres identified for protection, 86,078 acres within the SRAs are already 'protected' to date. Protected land is defined as property managed by a federal, state, or non-governmental conservation organization. The following organizations manage the majority of these protected lands within the CZ:

Delaware Nature Society	109 acres
Historical & Cultural Affairs	455 acres
United States Fish & Wildlife Service	25,276 acres
Delaware Division of Fish & Wildlife	36,214 acres
Delaware Division of Parks & Recreation	12,468 acres
Delaware Wild Lands, Inc.	7,849 acres
The Nature Conservancy	3,115 acres
<u>DNERRS¹</u>	<u>592 acres</u>
TOTAL	86,078 acres

¹ DNEERS means Delaware National Estuarine Research Reserve. Delaware has two reserves, one on the St. Jones River south of Dover and one on Blackbird Creek.

Also, approximately half (71,861) of the 142,000 acres identified for protection by the Open Space Program are protected in the Coastal Zone.

Coastal Zone Habitat for Living Resources

Habitat is the arrangement of food, water, shelter or cover, and space suitable to a living organism's needs. Open water habitats encompass approximately 41,000 acres within the CZ. Wetlands, especially tidal marshes, form the largest percentage of the remaining 232,000 acres of habitat. Freshwater wetlands and upland forests comprise a much smaller portion of the remaining natural areas. The majority of the upland habitat within the CZ has been converted to agricultural uses.

The living resources, the plants and animals living in, on, and around the CZ range from microscopic plankton, to mosquitoes and dragonflies, oysters, crabs and ducks, and to the oak and tulip trees lining the banks of freshwater inland streams. Over 200 species of fish use the Delaware Estuary and are in some way dependent upon the food and cover it provides. The CZ is also a major staging area for migrant shorebirds, which gorge on horseshoe crab eggs in late May every year. This zone is also an important resource for breeding Black Duck, and thousands of over-wintering waterfowl. Current protection efforts have successfully protected the majority of the coastal tidal wetlands within the CZ. This zone is also a major migratory route for raptors (hawks, eagles, falcons and owls) and other bird species

Rare & Endangered Species Within the Coastal Zone

The Delaware Natural Heritage Program (DNHP) has identified 602 element occurrences of rare (to Delaware) plants, animals and plant communities within the Coastal Zone. The animal list includes:

- 1) 41 species of rare birds, many which breed (or recently bred) in localized areas within the CZ. This list includes Black Rail, Sharp-tailed Sparrow, Sedge Wren, Piping Plover, Least Bittern, Forster's Tern, American Oystercatcher, Short-eared Owl and Bald Eagle.
- 2) 7 rare reptile species, including queen snake, milk snake, and eastern ribbon snake.
- 3) 5 rare fish species; including black-banded sunfish, four-spined sticklebacks and the comely shiner.
- 4) 20 invertebrate species; including 4 tiger beetles, 8 dragonflies and damselflies, 7 butterflies and skippers, and one firefly.
- 5) 1 mammal species; the Delmarva fox squirrel; and
- 6) 4 amphibian species; carpenter frog, Cope's gray treefrog, and 2 salamanders.

The rare and endangered plant list includes 147 different rare species found within the CZ. Sixty-five plant records are found in upland communities, 42 plant records in tidal communities and 202 non-tidal wetland plant records. Many of these rare species sites are found in the 29 various uncommon to rare plant communities the DNHP has identified in the CZ to date, many which support rare animal species as well. Examples of these rare communities include interdunal swales, coastal plain ponds and beach grass dune communities. In the Coastal Zone, 86% of the rare plants are found in upland or non-tidal freshwater wetland habitats. Only 14% of the rare plant locations are in located the tidal areas. Many rare (to Delaware) animal species, including all the amphibians, reptiles, most invertebrates and various birds, are also found in these upland and freshwater wetlands. This is significant because most of the 'protected' lands within the CZ are tidal wetlands, which support the lowest number of rare species. In addition, almost all of the land remaining within the SRAs to be acquired is upstream

of these tidal wetlands. Another problem is that the CZ boundary cuts off all of the headwaters of the streams that flow into the tidal marshes. These habitats have not been considered in this analysis, although they are critical to the overall health of the CZ and the Delaware Estuary.

Biodiversity

According to the Environmental Law Institute Research Report, of 1999, "Protecting Delaware's Natural Heritage", biodiversity is the variety of life and its processes. This includes the varieties of living organisms, the genetic differences among them and the communities and ecosystems in which they occur. Concern for biological diversity, or biodiversity, requires the conservation and/or restoration of landscapes, native plant and animal species and the protection of the remaining healthy diverse genetic stocks within species. To better protect the biodiversity of Delaware's Coastal Zone, the remaining plants, animals and ecosystems must be conserved or restored on both public and private lands.

The Coastal Zone Act clearly states in its Purpose Sections (7001) that the "...coastal areas of Delaware are the most critical areas for the future of the State in terms of the quality of life..." The Act seeks to control "...the location, extent and type of industrial development in Delaware's Coastal areas", so that "...the State can better protect the natural environment of its bay and coastal areas and safeguard their use primarily for recreation and tourism." Clearly this law is intended to protect the biodiversity of the Coastal Zone. However, this law only regulates industrial development, including offshore bulk product transfer facilities (except at the Port of Wilmington.)

The Coastal Zone, like all of Delaware, has seen a reduction in biodiversity. The natural environment today is more fragmented than it was in 1971. This degradation in the Coastal Zone is due mainly to suburban sprawl in New Castle County and second home development with its accompanying commercial sprawl around the Inland Bays of Sussex County. The Route 1 area between Lewes and Rehoboth is typical. Also, the area around Ocean View and Millville is moving rapidly from farmland and forest land to housing and commercial land uses.

LAND USE/COVER

The land use/cover within the Coastal Zone (not including the Delaware River and Bay) contains a wide variety of activities. The recreation and beach areas of Sussex County to the heavy industries of New Castle offer the two extremes of land uses in the Coastal Zone. However, even in New Castle County, only about 2,000 acres or 3.5% of the land is in heavy industry uses.

As mentioned in the Living Resources section, much of the land in the Coastal Zone consists of wetlands. The two largest land covers are agriculture and wetlands. Please refer to the following land use/cover tables for more detailed information by county regarding land use/cover in the Coastal Zone.

2002 New Castle CZ Landuse/Landcover

Class	Total Acres	Percent Acres
Agriculture	18132.3726	30.21%
Barren Lands	2854.1152	4.76%
Commercial	734.8696	1.22%
Forestland	5822.5142000000	9.70%
Industrial	2090.3839	3.48%
Institutional/Gov.	225.1746	0.38%
Mixed urban or Built-Up land	407.6011	0.68%
Other urban or Built-Up land	1255.8233	2.09%
Rangeland	2154.0869	3.59%
Recreational	358.0015	0.60%
Residential	4168.0382	6.95%
Transportation/Communication	1094.6517	1.82%
Utilities	408.7041	0.68%
Water	4538.5937	7.56%
Wetlands	15769.5699	26.28%
GRAND TOTAL	60014.5005	100%

2002 Kent CZ Landuse/Landcover

Class	Total Acres	Percent Acres
Agriculture	23597.3319	29.78%
Barren Lands	128.4787	0.16%
Commercial	41.3088	0.05%
Forestland	5079.0568	6.41%
Industrial	16.4205	0.02%
Mixed urban or Built-Up land	61.7795	0.08%
Other urban or Built-Up land	274.6937	0.35%
Rangeland	296.17	0.37%
Recreational	28.9474	0.04%
Residential	1489.2044	1.88%
Transportation/Communication	278.9438	0.35%
Utilities	72.2258	0.09%
Water	5337.5588	6.74%
Wetlands	42534.4625	53.68%
GRAND TOTAL	79236.5826	100%

2002 Sussex CZ Landuse/Landcover

Class	Total Acres	Percent Acres
Agriculture	34044.16	25.84%
Barren Lands	3485.383	2.65%
Commercial	1201.238	0.91%
Forestland	15255.99	11.58%
Industrial	157.9616	0.12%
Institutional/Government	431.218	0.33%
Mixed urban or Built-Up land	944.3987	0.72%
Other urban or Built-Up land	416.9083	0.32%
Rangeland	1229.235	0.93%
Recreational	1129.007	0.86%
Residential	15832.89	12.02%
Transportation/Communication	688.0709	0.52%
Utilities	310.3748	0.24%
Water	25185.82	19.12%
Wetlands	31418.06	23.85%
GRAND TOTAL	131731	100%

COASTAL ZONE ACT DECISIONS SINCE MAY 1999

The following is a listing of Coastal Zone decisions since May of 1999 when the "Regulations Governing Delaware's Coastal Zone" became effective.

1. Johnson Controls Interiors LLC of Michigan; CZA Project No. 322SD:
The company submitted a request for a Coastal Zone Status Decision on December 6, 1999. The company needed to know its status under the Act and new Regulations concerning an upcoming expansion of their automotive interior component facility at 600 Centerpoint Boulevard in New Castle. After a thorough review, the Secretary decided on January 13, 2000, that the project as proposed due to the new solid waste to be generated would require a Coastal Zone Act Permit. No appeal was received against this decision.
2. Conectiv Energy, Inc; CZA Project No. 323P:
The company filed for a Coastal Zone Permit on February 29, 2000 for approval of 550 megawatts of new electric generating capacity at the Hay Road facility. These new combustion turbines would be constructed in Phase I. In Phase II, one additional generator powered by steam generated by waste heat from the new combustion turbines would be added. The fuel for the combustion turbine is to be mainly natural gas from existing nearby gas pipelines. The three new combustion turbines will generate new air emissions. To comply with the Regulations, the applicant plans on providing emission reduction from the existing power generating facilities at Hay Road. Part of the emission reductions will come from retrofitting the older equipment with more modern equipment and switching some fuels from oil to natural gas. The company experienced difficulty in making this application acceptable to the U.S. EPA. The application was withdrawn on July 6, 2000.
3. Johnson Controls Interiors, LLC of Michigan; CZA Permit 324P:
On March 22, 2000, Johnson Controls Interiors applied for a Coastal Zone Act Permit. This application is in response to the Secretary's status decision of January 12, 2000 (CZA Project Number 322SD). The company applied for the CZA Permit to raise production to 1.90 million automotive components per year at 600 Centerpoint Boulevard in New Castle. The production will significantly increase their production of solid waste. The company's Offset Proposal is to have 149% of the new solid waste (with some previously approved waste) shipped out of the Coastal Zone for reprocessing/recycling or disposal. The hearing was conducted, May 23, 2000. The DNREC accepted Offset Project consisted of recycling some solid waste and removing the remainder out of the Coastal Zone. On June 20, 2000, the Secretary granted the CZA Permit with the offset proposal as a special condition of the Permit. No appeal was received against this decision.
4. The Diamond State Port Corporation; CZA Project No. 325SD:
This corporation also known as the Port of Wilmington submitted a Request for a Coastal Zone Status Decision on April 5, 2000. The corporation is seeking approval under the Coastal Zone Act to construct and utilize a new pier/dock at the port into the Delaware River. This new pier/dock will be used to transfer new cars on and off large ships. Other non-bulk products, such as steel, may also move over this dock. Since this is a status determination application, no hearing will be held. On April 25, the Secretary declared the application to be administratively complete. The Secretary decided on May 24, 2000

that this proposed activity at the port is not regulated by the Coastal Zone Act. No appeal was filed against this decision.

5. Carlyle Cocoa, LLC; CZA Project No. 325P:

On May 15, 2000, the DNREC received an application for a Coastal Zone Act Permit from Carlyle Cocoa Company, LLC. The company is seeking the permit to install a cocoa food manufacturing facility within the Delaware River Industrial Park near the Port. The facility plans to use about 20,000 square feet of space in an existing building. Emission will be minimal with about 14 pounds per day of cocoa dust and fumes from a small gas-fueled dryer with some wastewater and solid waste. The applicant's Offset Proposal consisted of planting 150 white pine trees and financing an energy conservation project at a public school in New Castle. A public hearing was conducted on July 31, 2000. On August 22, 2000, the DNREC Secretary granted the CZA Permit with the Offset Proposal as a special condition. No appeal was received.

6. Conectiv Energy, Inc. CZA Project No. 327P:

This is the same project as No. 2 on the preceding page. However, modifications have been made to comply with EPA technology issues. DNREC considered this application to be administratively complete on August 10, 2000. A combined Air Resources and Coastal Zone Permit public hearing was conducted on September 6, 2000 at the Department's office on Lukens Drive. On October 17, 2000, the DNREC Secretary granted Conectiv Energy the Coastal Zone Act Permit, which includes the required environmental offsets. The CZA Offset Project consisted of a financial contribution to the Northern Delaware wetlands rehabilitation project, burning more natural gas, instead of coal, in the older boilers at Hay Road, releasing some freshwater from a reservoir the company has some ownership in when river flows are low and restoring some wetlands in the upper Christina River basin.

7. VPI Mirrex Corporation; CZA Project No. 328SD:

VPI Mirrex applied for a Coastal Zone Act Status Decision on November 9, 2000. The company was seeking approval under the Act to install and utilize a new extruder at the facility near Delaware City. The new extruder will recycle waste plastic into new plastic pellets to be used in other existing machines to become saleable plastic wrap. After a review of the application, the DNREC Secretary decided that this activity is not regulated by the Coastal Zone Act. The new extruder will not create any new products or raise the production levels of existing products. No new land or buildings were needed for the new machinery. No new discharge permits were needed for the new extruder. No appeal against this decision was received.

8. FPL Marcus Hook Cogeneration, LLP Project; CZA Project No. 329SD:

On March 15, 2001, FPL (Florida Power and Light) Marcus Hook Cogeneration, LLC filed a Request for a Coastal Zone Act Status Decision requesting approval under the Act to install and utilize a water purification system and gas pipeline on 3.86 acres in northern Delaware at the Sunoco Refinery. The new equipment would pump clarified water and gas north into Pennsylvania. The DNREC Secretary decided that this activity is not regulated by the Coastal Zone Act. The proposal did not constitute a new heavy industry, a new or expanded manufacturing use, a new sewage treatment plant, or an offshore bulk product transfer facility. There was no appeal against this decision.

9. DuPont Company; CZA Project No. 330SD:
The DuPont Company filed a Request for a Coastal Zone Act Status Decision on June 14, 2001. The company sought permission under the Act to close their ferric chloride storage ponds and construct two 400,000 gallon storage tanks on less than five acres. After Department review, the Secretary rendered a decision on July 16, 2001 that the proposed changes at the existing Claymont area facility did not require a Coastal Zone Act Permit. The proposal did not create a new product, increase production of existing products, or harm the environment. No one filed an appeal against this decision.

10. The Chloramone Company; CZA Project No. 331SD:
On June 28, 2001, The Chloramone Company requested a Coastal Zone Act Status Decision from the DNREC Secretary involving a change in production methodology at the existing facility north of Delaware City. This change included the addition of 12 new electrolyzer cells to manufacture chlorine and sodium hydroxide for the company's existing chlorine production. This new processing equipment would negate the need to import these two chemicals used to make chlorine. No new products would be produced, nor would there be an increase in the production of sodium hypochlorite (a strong bleach) from this facility. On August 2, 2001, the DNREC Secretary ruled that this proposal required a CZA Permit. The new manufacturing equipment needed to produce the two chemicals was a new manufacturing use in the Coastal Zone. The company did not appeal the decision.

11. Metachem Products, LLC; CZA Project No. 332SD:
Metachem Products (formally known as Standard Chlorine of Delaware) filed a Request for a Coastal Zone Act Status decision on July 9, 2001. The company planned to make modifications to their existing distillation columns at the Delaware City area grandfathered heavy industrial facility. Also, one new column was to be added and two removed. There would be a reduction in the amount of energy consumed by the applicant due to this project. The Secretary ruled on August 10, 2001 that such modifications did not require a Coastal Zone Act Permit. There would be no new products, production increase of existing products or negative environmental impacts. There was no appeal against this decision.

12. Printpack, Inc.; CZA Project No. 333P:
The DNREC received an application for a Coastal Zone Act Permit from Printpack, Inc. on September 12, 2001. The company requested the Permit to increase its film printing capacity at its New Castle site. The expansion was accomplished by adding two new printing presses, one white ink holding tank and one thermal regenerative oxidizer to the other printing presses. The new printing presses would raise air emissions from the facility by 26 tons per year. After review of the application, including the offset proposal, and the public hearing of January 17, 2002, the DNREC Secretary decided to grant the CZA Permit. To more than offset the additional air emissions, the company agreed to purchase emission reduction credits of VOC and NOx, remove 350 pilings from the Delaware River, switch to gas as a fuel instead of oil, reduce automobile emissions through an employee carpooling system, recycling 190 tons per year of waste plastic and donate 27 acres of wetlands to the State. On February 28, 2002, the Secretary of the DNREC signed the CZA Permit for this proposal. No one filed an appeal against this Permit decision.

13. DuPont Company; CZA Project No. 334SD
The DuPont Company of Edgemoor filed a Request for a Coastal Zone Act Status Decision on November 13, 2001. The company requested the Status Decision to determine if the construction of a new tank and associated pumps and valves at an existing unloading and loading facility requires a CZA Permit. The new equipment would add Aluminum Trihydrate into the applicant's existing titanium dioxide product. On December 21, 2001, the DNREC Secretary ruled that this proposed project is not regulated by the Coastal Zone Act as there are no negative environmental impacts associated with it, no production increase of titanium dioxide and no new product. There was no appeal against this decision.

14. BOC Gases, Inc.; CZA project No. 335SD
The Department received a Request for a Coastal Zone Status Decision from BOC Gases on December 21, 2001. The company planned to install a small pilot plant to showcase a new technology at its air separation facility on Philadelphia Pike near Claymont. The new 40 square foot plant would process some amount of separated atmospheric gases. On January 13, 2002, the Secretary of the Department decided that such a new facility required a CZA Permit. The new facility represents a manufacturing use at an existing manufacturing plant and there would be some negative environmental impacts. An offset project would be needed in the permit application. The company did not appeal this decision.

15. Motiva Enterprises, LLC; CZA Project No. 336SD
A Request for a Coastal Zone Act Status decision was received by the Department on March 19, 2002. The company filed to learn if their plan to install and utilize equipment to control sulfur pit emissions of hydrogen sulfide vapors were regulated by the CZA. The proposed project would capture and safely destroy 33 tons per year of odor-causing and explosive hydrogen sulfide gas. The Secretary ruled on April 18, 2002 that this project is a pollution control project and not regulated by the Act. The project would not create a new product, create a new product and is good for the environment. No appeal was filed against this decision.

16. RichardsApex, Inc.; CZA Project No. 337SD
On April 22, 2002, a Request for a Coastal Zone Act Status Decision was received from RichardsApex, Inc. of Philadelphia, Pennsylvania. The application depicted a totally new manufacturing facility in the Coastal Zone at the site of the former Amoco Refinery on Rt. 9 and Grantham Lane, just south of the Town of New Castle. The refinery experienced an explosion and fire in October of 1980 and was soon closed. The site's grandfathered heavy industry use rights terminated two years later as there was no intention of rebuilding the refinery. The purpose of the Status Decision application was to determine if the proposed use was an allowable new manufacturing use, or a prohibited new heavy industrial use. The application called for a new facility to produce various lubricants, powered cleansers and powdered coatings. The applicant would not use heavy industrial equipment such as distillation towers, incinerators and reaction vessels. The company would use mixing, blending and packaging equipment to produce their three main products. The proposal summarized some negative environmental impacts from the proposed facility. The DNREC Secretary ruled that the proposal is not a new heavy industrial use. Rather, it is a regulated new manufacturing plant requiring a CZA Permit, with an offset project(s). No appeal was received against this decision.

17. DuPont Company; CZA Project No. 339SD:
The DNREC received a Request for a Coastal Zone Act Status Decision from the DuPont Company at Edgemoor on June 18, 2002. The company sought approval under the CZA to install and utilize a railroad siding and new loading and unloading facility within the company's CZA footprint. There was no planned change in the production level of the facility's titanium dioxide product, or the creation of a new product. No negative impacts were expected. Due to the above facts, the DNREC Secretary ruled on June 26, 2002 that this proposed project does not require a CZA Permit. There was no appeal against this decision.
18. RecyClean Plastics, LLC; CZA Project No. 340P:
An application for a Coastal Zone Act Permit was received by the Department on July 26, 2002 from RecyClean Plastics, LLC. The company sought the permit to establish a new manufacturing facility at 29 Harbor View Drive in the Delaware River Industrial Park in New Castle. The application described a project to recycle 15 million pounds per year of plastic utilizing 35,000 square feet of space in an existing building. The recycling process included processes for grinding the plastic to a specific size, rinsing, washing and drying and packaging it for shipment. The negative environmental impacts included air emissions of about seven tons, seven tons per month of non-hazardous solid waste and about 3,000 gallons per day of water consumption which is discharged into the existing sewer system. The applicant's offset project consisted of planting trees, purchasing two tons of NOx emission reduction credits, hauling all solid waste out of the Coastal Zone and providing some funding to the Northern Delaware Wetlands Remediation Program. On November 13, 2002, the DNREC conducted a public hearing on this application. On December 6, 2002, the Secretary granted the CZA Permit. Two special conditions were attached to the permit: 1. the applicant may not store on-site more than 600,000 pounds of plastic material (both scrap and finished product) at any given time in the building, and 2) the permit holder must notify the DNREC prior to storing more than the above amount. No appeal was received against this decision.
19. CitiSteel, USA; CZA Project No. 341SD:
On July 29, 2002, the DNREC received a Request for a Coastal Zone Act Status Decision from CitiSteel USA, LLC located in Claymont. The company requested the determination to learn if the installation of a new computer guided cutting table with 16 torches requires a Coastal Zone Act Permit. The project would result in fewer hand-held torches; no new land would be needed; the project would be in an existing building. No new products would be created or induce a rise in production of the present steel products. There would be no negative environmental impacts from this technology upgrade. On September 10, 2002, the DNREC Secretary ruled that this project did not require a CZA Permit. No appeal was received on that decision.
20. Lafarge North America, Inc.; CZA Project No. 342SD:
The DNREC received a Request for a Coastal Zone Act Status Decision from Lafarge North America, Inc. on September 11, 2002. The company's facility, located at the Port of Wilmington, manufactures gypsum wallboard used in the home building industry. The company filed the application to determine if a temporary waste wallboard recycling project requires a CZA Permit. The recycled materials would be re-used on site to make saleable wallboard. No new products would result from this project nor would there be a production increase in wallboard. The project would use a diesel-powered grinder and

trammel screen to recycle the wallboard which would result in air emissions. On October 31, 2002, the DNREC Secretary decided that this proposed operation would require a CZA Permit since the recycling operation meets the definition of manufacturing and there will be negative environmental impacts (diesel fuel combustion products and particulates from the wallboard). No appeal was received from the company on this decision.

21. Sunoco, Inc.; CZA Project No. 343P:

The Department of Natural Resources and Environmental Control received an application for a Coastal Zone Act Permit from Sunoco on September 25, 2002. The Claymont area refinery which is located in both Pennsylvania and Delaware plans to construct and operate a new Claus sulfur recovery unit plant in the Delaware portion of the Marcus Hook Refinery. The new facility would produce forty long tons of liquid sulfur per day by converting acid gas to liquid sulfur. The new equipment would emit about 50 tons per year of air emissions. The needed Offset Project is the permanent closure of three ethylene complex (EC) steam boilers in Delaware. These shutdown boilers provide sufficient actual air emission reductions by June 30, 2004 (84.6 tons per year) to more than offset the new 50 tons per year. The additional, unused emissions would be reserved by Sunoco as emission reduction credits used as an offset at a later time. On March 13, 2003, a public hearing was conducted for this application. Following the Hearing Officer's Report dated May 9, 2003, the DNREC Secretary signed the CZA Permit on May 15, 2003 with one special condition attached. That condition stated that the Offset Proposal must be implemented as offered by June 30, 2004. An appeal was received against the Secretary's decision on June 2, 2003 and the State Coastal Zone Industrial Control Board convened a public hearing on July 17, 2003 to hear the appeal. After the testimony had been collected and discussed, the Board voted to uphold the Secretary's decision to grant the permit. This decision by the Board was appealed to Superior Court on August 8, 2003. The court upheld the Board's decision, but required the Board's attorney to re-write the Board's final report on this matter. This was concluded on October 18, 2003 and there was no further appeal. During the summer of 2004, it became apparent to the Department that this June 30, 2004 offset implementation date had not been met. Sunoco claimed that it could not shutdown the three Delaware EC boilers because the replacement boilers in Pennsylvania were not yet operational due to construction problems with the contractor. During the following autumn and winter, the DNREC, Sunoco and the Delaware Department of Justice discussed the situation. In May of 2005, it was decided to penalize Sunoco by increasing its required CZA Offset. Also, Sunoco voluntarily burned gas instead of oil in its three Delaware EC boilers to reduce NOx by 53 tons at a cost of \$1,470,000 to Sunoco. The fuel switch was for less than one year and is not permanent (as the boilers will be shutdown for the offset). The new Offset Proposal permanently raises the total air emissions offset from 84 tons per year to 209 tons per year. The additional emissions come from the unused (banked) emissions reductions Sunoco planned to hold as emission reduction credits. On May 25, 2005, the DNREC and Sunoco formally agreed to the revised Offset Proposal which must be implemented by June 30, 2005. The boilers were shut down on March 23, 2005.

22. RichardsApex, Inc.; CZA Project No. 344P:

In April of 2002, the DNREC Secretary ruled that a proposed facility by RichardsApex, Inc. along Route 9 south of New Castle was a manufacturing use requiring a CZA Permit (note paragraph 16 above for details on the proposed activity). On October 29, 2002, RichardsApex applied for the CZA Permit, including an Offset Proposal. To negate the

negative environmental effects of their project which consists of 24 tons per year (TPY) of air emissions, use of 5,500 gallons of water per year and some solid waste, the company proposed an Offset Proposal. The proposal consisted of retiring 24 tons per year of air emission credits, make a financial donation to the Trustees of Army Creek. Donate land for conservation purposes and utilize a 'brownfield' site for their plant (the former Amoco Refinery land). A public hearing was conducted on June 17, 2003 to review the application. Soon after the hearing record closed, the Secretary granted the company the CZA Permit. No appeal was received. Some time afterwards, RichardsApex, Inc. decided not to locate their facility to this site.

23. Motiva Enterprises, LLC; CZA Project No. 345SD:

On December 16, 2002, Motiva Enterprises, LLC filed a Request for a Coastal Zone Act Status Decision. The company proposed the installation of non-regenerative wet gas scrubbers and other improvements at the Delaware City refinery. On January 16, 2003, the DNREC conducted a public workshop on this application. After the review process concluded, the DNREC Secretary decided that Motiva Enterprises, LLC needed to acquire a Coastal Zone Act Permit for the project. He concluded that while much of the proposed project was for pollution control, there were other activities in the application that were aimed at refinery improvements that would allow for a production increase of fuels. Thus, Section E (16) of the CZA's regulations is not applicable to the entire project. The company did not appeal this decision.

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24. E. I. DuPont de Nemours and Company; CZA Project No. 346P:

The DNREC received an application for a CZA Permit from the E. I. DuPont de Nemours and Company on January 3, 2003. The company's application described plans to construct and utilize a new sulfuric acid regeneration (SAR) facility at the (then) Motiva Enterprises Delaware City refinery. The new plant would process 550 tons per day (tpd) of sulfuric acid to replace the aging Motiva regeneration facility with a capacity of 600 tpd, which will close if the Du Pont facility is constructed. The new facility will use six acres of land leased under a long term agreement with Motiva inside Motiva's CZA footprint. Du Pont will use technology to reduce sulfur dioxide emissions below the Best Available Control Technology (BACT) standards. The project will have air emissions, water use and discharge, solid waste and some hazardous waste. The company offered an Offset Proposal within the permit application to more than offset the new emissions. The offset for this project is that of the closing of the old, but operational, Motiva SAR plant. The offset for this project is the emissions curtailed from the Motiva SAR facility compared to those emissions from the new Du Pont plant. When the two SAR plants are compared, the new Du Pont plant will have a net reduction in air emissions of 91 tons per year (tpy) of all combined air emissions. There will be a reduction in the generation and disposal of sodium sulfate of 2,700 TPY. Water used for processing will be reduced by 0.03 million gallons per day. The Department hosted a public workshop for this application on June 3, 2003. The formal public hearing was conducted on June 11, 2003. On August 14, 2003, the DNREC Secretary decided to grant the company the CZA Permit. Two citizens appeal this decision to the State Coastal Zone Industrial Control Board. On October 14, 2003, the Board conducted a public hearing to review the Secretary's decision. After reviewing the pertinent documents and supporting materials, the Board voted to affirm the Secretary's permit

decision as “the proposed project will have a positive overall environmental impact and otherwise meets the relevant requirements for a Coastal Zone Act Permit”. On October 24, 2003, this decision was announced to the public wherein a citizen filed an appeal against the Board’s decision to Superior Court on April 30, 2004. On March 18, 2005, the Superior Court affirmed the decision by the State Coastal Zone Industrial Control Board. The same appellant has appealed the Superior Court decision to the State Supreme Court for consideration.

25. S.P.I. Polyols, Inc.; CZA Project No. 347P:

On July 11, 2003, S.P.I. Polyols, Inc of Cherry Lane in New Castle applied to the Department for a Coastal Zone Act Permit to construct and operate a 5,000-gallon batch reactor to manufacture additional sorbitol and mannitol. The project needed 0.17 acres of land within the company’s existing CZA footprint. The applicant would have some additional emissions from the reactor. To offset these new emissions, the company proposed an Offset Proposal to shutdown the liquids production section of the plant. Total new air emissions were projected to be about 53 tons per year, mainly of hydrogen. The project would also use 50,000 gallons per day of water. There would also be new hazardous waste from this project. The closure of the liquids sorbitol and mannitol portion of this facility would result in the reduction of about 70 tons per year of air emissions; a net savings of 10,000 gallons per day of water; and the new hazardous waste will be transported to New Jersey for recycling. On August 13, 2003, the Department sponsored a public hearing to review this application. No one from the public attended this hearing. On August 22, 2003, The DNREC Secretary signed the CZA Permit for S.P.I. Polyols, Inc. There was no appeal against the Secretary’s decision.

26. Delaware Terminal Company; CZA Project No. 248SD:

The DNREC received an application for a Coastal Zone Act Status Decision on August 1, 2003 from Delaware Terminal Company located in the Port of Wilmington. The company, which pre-dates the CZA, sought approval under the Act to add additional storage capacity of fuel oil and diesel fuel in the amount of 0.87 million barrels. The proposal had no manufacturing plans included. However, air emissions would rise possibly to a “significant” extent. On November 23, 2003, the DNREC Secretary ruled that the project requires a CZA Permit. The facility is a legal, non-conforming land use. Any expansion or extension of such a facility in the Coastal Zone must acquire a CZA Permit. The Delaware Terminal Company filed an appeal against this decision and on February 4, 2004, the State Coastal Zone Industrial Control Board conducted a public hearing to review the decision. At the end of the hearing, the Board voted to overturn the Secretary’s Status Decision. The Board concluded that the Secretary erred by not recognizing the applicant’s Status Decision of 1979 which is recognized in the CZA’s Regulations sections E.11 and E. 17. Also, the Secretary did not demonstrate that the former State Planner made a mistake in 1979 in reviewing the applicant’s project at that time. The Board overturned the Secretary’s decision and “finds that the proposed project is a use/or activity not regulated under the Act and does not require a Coastal Zone Act Permit.” The DNREC did not appeal this decision to Superior Court.

27. Mid-Atlantic Biodiesel; CZA Project No. 349SD:

On August 21, 2003, the Department received an application for a Coastal Zone Act Status Decision from Mid-Atlantic Biodiesel. The proposed facility was planned for 745 Governor Lea Road in New Castle County. The applicant planned the new facility to manufacture three saleable products: Biodiesel, Glycerine and Free Fatty Acid. The

company would utilize 3-5 acres of an 18 acre site. New processing equipment would include smoke stacks for boiler exhaust, tanks, distillation or reaction columns, chemical processing equipment and scrubbing towers. The company planned a production rate of five million gallons annually. The application depicted a full scale production plant, not a pilot plant or a research and development facility. After staff review, receiving public commentary and advice from the Department of Justice, the Secretary ruled on October 3, 2003 that the proposed land use represents a new chemical plant which is expressly prohibited by the Coastal Zone Act. The applicant did not appeal this decision.

28. Oceanport Industries, Inc.; CZA Project No. 350P:

On June 30, 2003, Oceanport Industries, Inc. applied for a Coastal Zone Act Permit to transfer a new product, liquid urea (a fertilizer), at its facility at 6200 Philadelphia Pike in Claymont. The company decided to drop magnesium oxide from its DNREC approved list of bulk products permitted for this site. The liquid urea would be pumped from a berthed vessel to existing above ground storage tanks which are to be upgraded to meet Federal and State tank requirements. The product would eventually be transferred from the storage tanks to tanker trucks, which will transfer the fertilizer to farms and other businesses. A public hearing was conducted on this application on December 4, 2003 which led to a denial of the permit on grounds that Oceanport Industries' lease relationship with International Raw Materials (IRM) was unclear as to responsibility of the urea. Later, the DNREC reopened the public record after Oceanport Industries withdrew its appeal. A second public hearing was convened on April 21, 2004 solely for the purpose of gathering further information from the applicant about its relationship with IRM and how the relationship affects ultimate responsibility for the handling of the liquid urea. New testimony and exhibits were entered into the official record. After consideration of the new material in the record, the DNREC Secretary decided to grant Oceanport Industries, Inc. the Coastal Zone Act Permit. Oceanport Industries, Inc. is clearly the responsible party for the transfer and storage of the liquid urea, including spills and their cleanup. There was no appeal against this final decision.

29. T A Instruments-Waters LLC; CZA Project No. 351P:

On September 15, 2003, The company filed an application for a Coastal Zone Act Permit to manufacture two new products at its existing facility at 109 Lukens Drive in New Castle. The two new products to be manufactured are rheology instruments and vapor compression refrigeration cycle coolers at a rate of 125 units and 100 units respectively. There are few environmental impacts associated with this proposal, but they will be offset by improved recycling of all solid wastes and fluorescent light bulbs. On February 11, 2004, the DNREC conducted a public hearing on this application. The Secretary decided on March 4, 2004 to grant the CZA Permit with three special condition involving the implementation of the Offset Proposal. There was no appeal filed against this decision.

30. Speakman Company, Inc.; CZA Project No. 352P:

The Speakman Company, Inc. submitted an application for a CZA Permit on November 10, 2003. The company needed the CZA Permit to manufacture plumbing fittings, showerheads and safety eyewashes and showers at its facility at 400 Anchor Mill Road in the Twin Spans Business Park in New Castle. Environmental impacts from this project consist mainly of 30 cubic yards per week of new solid waste. The applicant included an Offset Proposal in their application. Their proposal included the recycling of cardboard and phone books of 30 cubic yards per week, which were previously land filled. The applicant will request that truck drivers turn off their diesel truck engines while parked at

the Speakman building. Also, Speakman will begin shipping all spent tube light bulbs to a recycling center in Pennsylvania. A public hearing was conducted for this application on April 6, 2004. On April 27, 2004, the DNREC Secretary granted Speakman Company the CZA Permit. There was no appeal against this decision.

31. Motiva Enterprises LLC; CZA Project No. 353SD:

On December 23, 2003, Motiva Enterprises LLC filed a Request for a Coastal Zone Act Status Decision with the DNREC. The complex project, known as the 'Refinery Pollution Control Upgrade Project', was designed to reduce air emissions from the Delaware City area refinery. The applicant entered into Consent Decrees with the US EPA and the State of Delaware to undertake a number of pollution control projects. The activity covered by the application covered several pollution control projects required by the decrees along with other projects that Motiva chose to undertake concurrently with the pollution control projects. The main upgrades included the installation of a wet gas scrubber to treat the exhaust from the fluid coker units carbon monoxide boiler; installation of a selective non-catalytic reduction system on the fluid coker unit carbon monoxide boiler to reduce NOx emissions; installation of a wet gas scrubber to treat the exhaust gas from the fluid catalytic cracking unit's carbon monoxide boiler; modification of the sulfur recovery plant to eliminate the ammonia precombustor at the crude unit atmospheric heater; and other refinery improvement projects at the refinery. In total, this project when fully complete will reduce air emissions of SO2 by about 33,000 tons per year with some reduction in NOx and particulate emissions. The application also stated there will be increases in fuel production due to the various refinery upgrades. The refinery output of gasoline, diesel, fuel oil, sulfur, coke and propane would all rise. After a thorough staff review and that of the public commentary, the DNREC Secretary rendered a Status Decision for this proposal. On February 29, 2004, the Secretary decided that this project will require a Coastal Zone Act Permit. While the project will reduce some air emissions, the application also shows that the production of sulfur and various fuels will rise. The throughput of crude oil will increase. There will be some new air emissions; water use and discharge to the Delaware River will rise and there will be some additional solid waste generated by this project. There was no appeal against the Secretary's decision.

32. Uniqema, Inc.; CZA Project No. 354P:

The DNREC received an application for a CZA Permit on March 23, 2004 from Uniqema, Inc. located at 315 Cherry Lane in New Castle. The company sought the permit to expand its production into eleven new classes of food and pharmaceutical grade intermediate products. Total production capacity of all new products combined would be 25 million pounds per year. These products are produced via a batch operations and since this is a non-continuous operation, the rate of production will vary for each individual product. This additional manufacturing represents an 22% increase in production at this grandfathered facility. Four new reactors and support equipment, 16 storage tanks, seven process tanks, one flaker unit and various packaging equipment are needed for this expansion project. All new equipment is housed in an existing 5,200 square foot building. The new activity has negative impacts on the environment. After a fuel change from oil to gas in other sections of the plant, this new activity has a net negative impact of 1.9 tons per year of air emissions. About 36.5 million gallons of water is needed for the project and there are 250 tons of solid waste with an additional 45,800 gallons of hazardous waste (as methanol) and 300 pounds of filter screen produced by this project. The company's Offset Proposal consists of installing low NOx

burners on existing equipment and using gas in the new reactors. Also, the company secured one ton of VOC emission reduction credits from the Delaware Economic Development Office. In addition, the company acquired two tons of VOC emission reduction credits from a now closed Coastal Zone heavy industry use (Kaneka Delaware). These three tons of emission credits offset the new 1.9 tons of air emissions. The water use increase and solid waste increase is offset by a 50.07 million gallon water conservation effort in the plant, which will have a net savings of 13.57 mgd. The 45,800 gallons per year of hazardous waste is to be transported out of Delaware for use or disposal elsewhere. On July 1, 2004, the DNREC conducted a public hearing on this application. After reviewing the Hearing Officer's Report, the DNREC Secretary signed the CZA Permit for Uniqema and published the required legal notices. There was no appeal against the Secretary's decision.

33. Motiva Enterprises LLC/The Premcor Refining Group, Inc.; CZA Project No. 355: On March 26, 2004, the Department received an application for a CZA Permit from Motiva Enterprises LLC in response to the DNREC's Status Decision (No. 353SD) of February 29, 2004 for the Pollution Control Upgrade Project. That Status Decision requires the company to acquire a CZA Permit for this project due to an increase in fuel production resulting from an increase in crude oil throughput. The CZA Permit application included an Offset Proposal. During the application review process, the refinery was purchased on May 1, 2004, by The Premcor Refining Group, Inc. On September 2, 2004, the DNREC sent a letter to the new owners requesting their assumption and verification of the CZA Permit application. In response to that letter, The Premcor refining Group, Inc. sent DNREC a letter dated September 13, 2004, in which Premcor takes responsibility for the present CZA Permit application. Almost simultaneously, the DNREC approved the company's final Offset Proposal in the application. In this proposal, the project's 3,100 tons of new air emissions were offset by the termination of about 24,971 tons per year of SO₂. The increase in water usage and wastewater discharge is offset by about 6,000 tons per year of the air emission reduction. All solid waste associated with this project will be hauled away for disposal outside the Coastal Zone. New hazardous waste (two tons per year) will be offset by a reduction in air emissions of 29 tons per year of SO₂. On October 7, 2004, the DNREC sponsored a public workshop to discuss issues of concern to the public. On October 14, 2004, the Department conducted a formal public hearing on this CZA Permit application. On November 30, 2004, the DNREC Secretary signed the CZA Permit for this project. The permit allows the company to increase its production of molten sulfur to 336,384 tons per year and install all necessary pollution control equipment and other refinery improvements as described in the application. This permit has three special conditions with it. One condition limits the refinery to throughput not to exceed 185,142 barrels per day on a 30 day rolling average time period. Another condition limits the coking unit throughput to 57,199 barrels per day on a 30 day rolling average time period. The final condition requires the company to submit a report to the Department detailing the implementation of the offset projects by December 31, 2006.
34. Port Contractors, Inc; CZA Project No. 356SD: On March 29, 2004, Port Contractors, Inc. filed a Request for a Coastal Zone Act Status Decision with the DNREC to construct a new warehouse. The steel frame warehouse would be 82,500 square foot in size to store bulk materials passing through the Port of Wilmington. No industrial or manufacturing activity was planned for the building. After staff and Department of Justice review, the Secretary ruled on April 30, 2004, that a

warehouse, without any ancillary manufacturing uses, is not regulated by the Coastal Zone Act. There was no appeal filed against this decision.

35. Ion Power, Inc.; CZA Project No. 357P:

Ion Power, Inc. filed an application for a CZA Permit on April 12, 2004 with the DNREC. The company's proposal called for a new manufacturing plant in an existing 8,900 square foot building at 745 Governor Lea Road near Delaware City. The company owns 18.45 acres. The applicant proposed to manufacture two products at this site: fuel cell membrane electrodes and liquion. Both products are components to the assembly of fuel cells made elsewhere. The new facility would emit 0.4 tons per year of VOC air emissions and 400 gallons per year of sanitary wastewater and one ton of office waste paper. The applicant's Offset Proposal clearly offset the new emissions. The offset consisted of acquiring one ton of VOC air emission reduction credit from the Delaware Economic Development Office, (the one ton credit originated from the closing of the Metachem plant at this Coastal Zone site). This one ton offset the new air emissions of 0.40 tons per year, the waste paper and the water usage and sanitary wastewater disposal into the on-site septic system. Some of the waste paper is to be recycled. On June 15, 2004 a public hearing was conducted to review this application and on July 15, 2004, the DNREC Secretary decided to grant the CZA Permit. There was no appeal against this decision.

36. S.P.I. Polyols, Inc.; CZA Project No. 358P:

On June 14, 2004, S.P.I. Polyols, Inc. filed an application for a Coastal Zone Act Permit for its existing facility at 321 Cherry Lane in New Castle. The company planned to manufacture additional sorbitol and mannitol and hydrolyzed starches in new tanks and pressure vessels and associated equipment. All new equipment and activity was planned to be within the applicant's CZA footprint. The proposed project would emit about 295 pounds per day air emissions (mainly hydrogen) and consume about 50,000 gallons of water per day. After some modifications to the original application, an acceptable Offset Proposal was offered by the company. The company's Offset Proposal consisted of a fuel switch for part of the year from oil to natural gas and an on-site water conservation program. However, on March 15, 2005, the company informed the DNREC that due to a change in business plans it had decided not to pursue the CZA Permit. No further action was taken on this application.

37. Printpack, Inc.; CZA Project No. 359P

An application for a CZA Permit was received on August 18, 2004 from Printpack, Inc. The facility, which is located along Route 9 just south of New Castle, applied to modernize its facility and expand its production capacity from about 29 to 50 billion square feet per year of printed film. To accomplish this, the company planned to replace seven older presses with five modern, larger capacity presses. Also, one photopolymer plate-making system, solvent tanks and a parts washer were to be added. The building would expand by 6,105 square feet. Air emissions from this project would drop, despite the increase in manufacturing, due to the modern presses to be utilized. Air emissions will drop by 6.424 tons per year as a result of this modernization project. Therefore, no separate Offset Project is needed for this project since the project does not have a negative impact on the environment, indeed it helps the environment. A public hearing was conducted on this application on December 7, 2004. After reviewing the Hearing

Officer's Report, the DNREC Secretary granted Printpack, Inc the CZA Permit without any special conditions. There was on appeal against this permit decision.

38. E. I. DuPont De Nemours & Company, Inc.; CZA Project No. 360P:

On September 23, 2004, the Du Pont Company applied for a CZA Permit to modify its Edgemoor facility at 104 Hay Road. The modifications would lead to the production of a new titanium dioxide product called IP1. This production requires the addition of several small permanent tanks and associated pumps and controls so that a defoamer and citric acid can be added to the existing titanium dioxide to give the IP1 an improved coating property. All such new equipment would be on 900 square feet within the applicant's existing CZA footprint. The production capacity of the facility would not change. Instead of an increase, the production of IP1 would be at the expense of the basic titanium dioxide product. Environmental impacts would be limited to about one pound per day of an air emission. To more than offset this one pound per day of air emissions, the company proposed an Offset Proposal to conduct a fuel switch in its ore roaster from oil to natural gas for ten days per year. This fuel change would reduce air emissions by about 1.25 tons per year, which greatly offsets the maximum 365 pounds per year of actual new emission for this project. On March 1, 2005, a public hearing was conducted on this application. On April 29, 2005, the DNREC Secretary signed the CZA Permit allowing DuPont to manufacture a maximum of 15,000 tons per year of IP1 product. A special condition was added to the permit by the DNREC to implement the fuel switch to natural gas for ten days and to the maximum extent possible burn the gas on ozone alert days as determined by the Department or at least during the ozone season (June – August). There was no appeal against the Secretary's decision to grant this permit.

39. Cytec Industries, Inc.; CZA Project No. 361SD:

On October 4, 2004, Cytec Industries, Inc. filed an application for a CZA Status Decision for its existing facility at 237 Cherry Lane in New Castle. The company filed the application to learn if the installation of one new 1,100 gallon tank used in the cleaning process of an existing polymer required a CZA Permit. The new tank would hold a current product, polyethersulphone, as solvents are passed through it to better clean the polymer. The solvents would be captured at the end of the cleaning process and reused. After staff review, the Secretary of the DNREC decided that this activity does not require a CZA Permit. The proposal will not increase the plant's production capacity, or create a new product. There will be no environmental impacts or safety issues to the public from this project. There was no appeal against this decision.

40. The Premcor Refining Group, Inc.; CZA Project No. 362SD:

On October 12, 2004, the DNREC received an application for a CZA Status Decision from The Premcor Refining Group, Inc. of the Delaware City area. The company applied to ascertain if a program required by the US EPA needed a Delaware CZA Permit. The purpose of the EPA Tier II Project is to reduce the amount of sulfur from the gasoline produced at the Delaware City refinery by 90%. Such a reduction of sulfur in the gasoline would reduce the amount of SO₂ coming from the tailpipes of automobiles. The proposal also included the shutting down of certain process equipment from the TAME unit at the refinery. This EPA required activity would not lead to any production increase of existing products or any new products. Some existing equipment would need some modifications, especially the cracked naphtha hydrotreater and the selective

hydrogenation unit. The proposed project would be within the refinery's CZA footprint. Overall, the project would reduce air emissions at the refinery by about three tons per year. Also, air quality in and around the Coastal Zone would benefit from an estimated 71 tons per year reduction in SO₂ tailpipe emissions. On May 25, 2005, the DNREC Secretary decided that this EPA mandated project does not require a Delaware CZA Permit. There was no appeal against this decision.

41. Crown Landing LLC (an affiliate of B. P. p.l.c.); CZA Project No.363SD:

On December 7, 2004, the Department of Natural Resources and Environmental Control received a Request for a Coastal Zone Act Status Decision from Crown Landing LLC, an affiliate of British Petroleum. The company sought the request to determine if a liquefied natural gas (LNG) transfer facility could be constructed in Logan Township, New Jersey with a 2000 foot long pier into the Delaware River, which is part of the Coastal Zone of Delaware. Most of the pier and the entire berth would be in Delaware. The pier could accommodate LNG carriers from 138,000 cubic meters to 200,000 cubic meters in capacity. The upland facility in New Jersey would consist of three 158,000 cubic meter LNG storage tanks, an LNG pressurization and vaporization facility, nitrogen injection system, six enclosed buildings and other support equipment. The DNREC and the Delaware Department of Justice reviewed the application to determine if this proposed facility represented a new manufacturing use, which would be eligible for a CZA Permit including the pier, or a prohibited new bulk product transfer facility. On February 3, 2005, the DNREC Secretary ruled that the proposed project is a new offshore bulk product transfer facility which is expressly prohibited by the Coastal Zone Act. Crown Landing LLC appealed this decision to the State Coastal Zone Industrial Control Board. The Board convened a public hearing to take testimony and review the Department's administrative record. Afterwards, the Board voted to uphold the Secretary's decision. The company did not appeal the Board's decision to Superior Court.

CONCLUSIONS

The quality of Delaware's Coastal Zone is generally good in most respects. However, notable problems exist with air quality, primarily ozone pollution. The water quality of the Inland Bays has deteriorated since 1971. Biodiversity has diminished due to the fragmentation of the natural environment. The Act and its new regulations have worked well to protect the Coastal Zone from industrial land uses as no new heavy industries have settled along the coast since 1971. All three of the above problems are largely due to the sharp rise in suburban sprawl (including increased automobile usage). All new or expanding (existing) manufacturing uses must acquire a Coastal Zone Act Permit. These permits for manufacturing facilities now require a net reduction of emissions from the applicant, thus slowly reducing the emissions from manufacturing plants to the natural environment while allowing for some new economic growth in the Coastal Zone. Unfortunately, the Act does not address suburban sprawl, which appears to be rapidly degrading the natural habitats of the Coastal Zone far more so than manufacturing and industrial land uses, especially in Sussex County. Other State and/or county land use laws, regulations or comprehensive land use plans should address this sprawl issue directly.