

Governor's Message

₹ rom the Allegheny Mountains to the Atlantic Ocean,

and all the waterways, forests and open space in between, 5.3 million Marylanders treasure our State's natural resources. When it comes to managing and protecting these fragile ecosystems, the people of Maryland - and I - entrust the Maryland Department of Natural Resources.



With DNR playing a lead role,

we are changing the way we manage our environmental assets statewide. By placing an emphasis on sound science and strategic planning, we have adopted new, comprehensive approaches to improving water quality, preserving land, and managing our wildlife and fisheries populations.

No place is this holistic approach more important or apparent than in our efforts to restore the Chesapeake Bay and its ecological, economic and cultural values. By focusing on the three major components that impact water quality -- nutrient reduction, oyster restoration and bay grass replenishment -- we are making the bold policy change needed to restore this national treasure.

My administration is committed to protecting all of our state's natural and living resources, and to returning the Chesapeake Bay to the healthy, vibrant estuary it once was. And the men and women of DNR are working hard to ensure we achieve our goals.

Secretary's Message

he Chesapeake Bay is a regional and national treasure.

Today, restoring it is Maryland's most critical environmental challenge. Using the best science available, we at the Department of Natural Resources are working with our sister agencies, and public and private partners at every level to reduce nutrient pollution, and replenish oysters and bay grasses.



Of course, we also take great pride in supporting those who use our natural resources. Whether you enjoy more traditional activities like fishing and hunting, or exciting new recreational trends like kayaking and mountain biking, we want every DNR customer to benefit from professional, friendly service and safe outdoor experiences.

Maryland's extraordinary natural resources contribute to our economy, our environment and our quality of life. We are honored to play a role in their restoration, preservation and balanced use.

C. Ronald Franks
Secretary

Contents

Governor's Message/ Secretary's Message

DNR Overview

DNR Organization

Restoring the Chesapeake Bay

Sustaining Natural Communities

Preserving Maryland's Landscape

Budget

Contact us



OVERVIEW

√he Maryland Department of Natural Resources (DNR) is the state agency responsible for providing natural and living resource-related services to citizens and visitors. From restoring the Chesapeake Bay and sustaining natural communities to preserving the public landscape, DNR manages more than 446,000 acres of public lands and 17,000 miles of waterways, along with Maryland's forests, fisheries and wildlife for maximum environmental, economic and quality of life benefits. A national leader in land conservation, DNR-managed parks and natural, historic and cultural resources attract visitors from around the country and around the world.

DNR is the lead agency in Maryland's effort to restore the Chesapeake Bay, the state's number one environmental priority. It is estimated that each year more than 15 million Maryland citizens and visitors enjoy recreational opportunities on our public lands and waterways.

DNR employs 1,450 full time and contractual employees. For less than 1 percent of the state's annual budget, Maryland's citizens receive a significant return on their investment in each of these areas.

With a diversity of customers and stakeholders extending across urban, suburban and rural areas, DNR programs, services and management activities touch the lives of all Marylanders.

Mission

The Department of Natural Resources preserves, protects, enhances and restores Maryland's natural resources for the wise use and enjoyment of all citizens.

Vision

Our vision is a Maryland that honors the interconnectedness of life by striving in all of its actions to safeguard and steward its natural resources for now and for future generations.



ORGANIZATION

Organization

The Office of the Secretary ...providing leadership, public outreach, marketing and information, customer service, legislative and legal services.

Executive Direction: Appointed by Governor Robert L. Ehrlich, Jr., DNR's leadership team is ultimately responsible for all agency programs, projects and services.

Legislative Office: DNR's legislative liaisons work with agency managers, the State House, local officials and members of the General Assembly to coordinate natural resource legislative activity.

Office of the Attorney General: OAG attorneys provide legal and legislative advice and representation for DNR programs.

Office of Communications & Marketing: Media, publication, marketing and

outreach staff work with the Governor's Office, sister agencies, and executive, unit and program staff to promote natural resources services, programs and stewardship. E-Government activities and DNR's internal and external communications are also managed by this group.

Office of Development: This office leads the effort to develop alternate funding for Chesapeake Bay restoration programs.

Chesapeake Bay Programs ... protecting, restoring and enhancing the Chesapeake and Coastal Bays and Maryland's tributaries.

Watershed Services: In collaboration with public and private partners, Watershed Services develops and supports watershed, greenway and waterway management strategies for the restoration, protection and economic vitality of our Chesapeake and coastal ecosystems. This unit also coordinates the agency's conservation education and green

building efforts; develops and implements Bay restoration policy, acting as liaison to the Chesapeake Bay Program and the Governor's Bay Cabinet; coordinates Maryland's 10 Tributary Strategy Teams; and provides department-wide geographic information services.

Resource Assessment Service: Through collection, management and interpretation of scientific and economic data from Maryland's waterways, RAS staff help evaluate and direct implementation of environmental restoration and protection policy for tidal and non-tidal ecosystems. This unit also leads the agency's bay grass restoration efforts, an Administration priority.

Regional Chesapeake Bay Program: This program works with federal agencies and regional jurisdictions to develop Bay restoration and conservation policy.

Chesapeake Bay Critical Area Commission: Created by an Act of the Maryland General Assembly in 1984, the CAC is charged with promulgating criteria to minimize storm water runoff impact, conserve living resources and habitats, and establish land use policies that accommodate growth while addressing the environmental impact of development along sensitive shorelines.



Property Management & Enterprise Services...funding, managing and planning for public land and easement acquisitions, waterways and recreational facilities improvements.

Capital Grants & Loans: This unit provides a focal point for diverse financial assistance programs that support public land and easement acquisitions, local grants and waterway improvements. Program Open Space funds state and local parks and conservation areas; Rural Legacy provides grants to local governments and land trusts to preserve Maryland's most significant natural, agricultural and forest areas; Shore Erosion Control offers technical and financial assistance to property owners in the design and construction of shore erosion control and stream restoration projects; and Waterway Improvement funds ramp repair, expansion and construction, along with dredging and stabilization activities.

Engineering & Construction: This team works to enhance and maintain existing land- and water-based facilities across Maryland, and coordinate construction of new facilities.

Resource Planning: DNR planners provide statewide technical assistance for public



land acquisition, development and resource management, including land and water mapping services, using plans, property control functions and impact assessments. This team also supports local jurisdiction open space and recreation planning.

Maryland Environmental Trust: This semi-independent board negotiates and accepts conservation easements over properties of environmental, scenic, historic or cultural significance; provides grants, loans and technical assistance to local land trusts; coordinates the Rural Village Protection program; and administers the Keep Maryland Beautiful Awards program.

Forests, Parks, Fish & Wildlife...managing Maryland's land and living resources for environmental protection, economic benefit and citizen enjoyment.

Fisheries Service: DNR's fishery professionals manage commercial and recreational harvests to maintain sustainable quality fisheries, enhance and restore fish species in decline, and promote fishery ethics and public involvement.

Maryland Park Service: MPS staff manage natural, cultural, historic and recreational resources in 47 state parks across the state, and provide related educational programming and outdoor adventure services.

Forest Service: DNR forestry professionals support Maryland's forest and tree resources by managing public forests while providing private forest land management expertise, wildfire protection, urban and community forestry assistance and tree planting programs.

Wildlife and Heritage Service: The WHS provides technical assistance and expertise to the public and private sectors for the conservation of Maryland's wildlife resources, including the management of threatened and endangered species, game birds and mammals, and the operation of 105,000 acres of stateowned lands classified as Wildlife Management Areas.

Management Service &

Operations...providing DNR employee services, customer licensing and registration and law enforcement.

Natural Resources Police: One of the oldest conservation law enforcement organizations in the U.S., this agency is responsible for preserving and protecting Maryland's natural resources and its citizens through enforcement of conservation, boating and criminal law. The NRP is also the primary search and rescue agency on Maryland waters and in remote areas of the state.

Licensing & Registration Service: At six regional service centers, LRS associates assist the public with vessel titling and registration, off-road vehicle registration, commercial fishing licenses and hunting and sportfishing licenses.



Finance & Administrative Service: FAS staff manage DNR's operating budget, fulfill federal grant reporting and billing requirements, track departmental revenues, expenditures and Managing Maryland for Results progress, administer procurement contracts, and manage payroll, vehicle fleet, building maintenance and mail services.

Human Resource Service: In support of a diverse and talented work force, HRS helps employees meet personal and career goals in concert with department goals, through career counseling, recruitment, classification, testing, training and development, employee benefit and personnel information management. Audit & Management Review: Ensuring department-wide operational effectiveness and compliance with state statutes, regulations, policies and procedures, this team reviews and assesses program performance and departmental procedures, offers efficiency recommendations, performs internal program and facility audits, and conducts external examinations of boat dealers, license agents and contractors.

Office of Fair Practice: OFP is responsible for the management of DNR internal and external equal opportunity programs and activities.

Information Technology

...supporting internal and external customers through the use of innovative technologies.

Applications Service: Staff provide custom applications and reports to the work force.

Enterprise Services: Information Technologies professionals provide DNR's network and connectivity, maintaining and supporting all hardware in headquarters and in the field offices.

Technical Support Services: The technical team maintains and supports all desktop systems and software.

RESTORING THE CHESAPEAKE BAY

he Chesapeake Bay is the largest estuary in the United States and one of the most complex and productive in the world. Covering a 64,000 square-mile drainage basin and extending about 180 miles in length, the Chesapeake is home to more than 3,600 species of plants and animals. For three centuries, the Bay, its tributaries, and the surrounding watershed — along with Maryland's Atlantic Coastal Bays and ocean beaches — have supported and sustained the region's economy, defined its traditions and culture, and provided immeasurable recreational and commercial benefits to Maryland's citizens and visitors.

Over 200,000 recreational vessels are registered to ply Maryland waters, making the state an important hub for major industry. The direct and indirect economic impact of the use of these resources is immense. As an economic engine, the combined value of the Bay to the States of Maryland and Virginia is a staggering \$1.2 trillion dollars. Its annual economic benefits are estimated to be \$60 billion dollars.

Today, however, the Bay is in trouble. Its water quality has been degraded — and continues to be threatened — by excess nutrients from impervious surfaces, agricultural runoff and wastewater treatment plant effluent. Concurrently, living resource and plant populations have also been challenged.

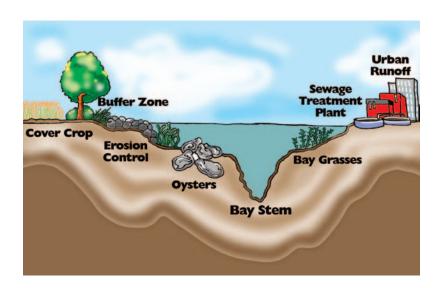
In Fiscal Year 2003, under the leadership of Maryland's newly elected governor, Robert L. Ehrlich, Jr., we decided it was time to reevaluate and perhaps change the way we approached our restoration efforts.

Chesapeake Bay restoration is the State's number one environmental priority, and DNR leads the statewide effort to improve the water

habitat for aquatic life and reduce erosion; and restablishing a healthy oyster population and its filtering capacity.

Nutrient Reduction

With inputs from a diversity of stakeholders, we recently completed Maryland's Tributary Strategy for nutrient and sediment reduction.



quality, aquatic habitat and shoreline access critical to sustaining recreational and commercial activities and the quality of life they support.

Science tells us that restoring the Chesapeake Bay's ecosystem rests on three main components: Stemming excess nutrient loadings that further degrade water quality; replenishing the bay grasses that produce oxygen, provide critical The Strategy provides a comprehensive blueprint of what must be done to reduce nutrient and sediment input to levels that support thriving communities of living resources. We are now working on the detailed implementation strategy for each of Maryland's 10 tributary basins.

Along with urban and agricultural runoff, effluent from wastewater treatment plants is

among the top three major contributors of nutrients entering the Bay. To address this problem, in May 2004, Governor Robert L. Ehrlich, Jr. signed into law the Chesapeake Bay Restoration Fund. Financed by a small user surcharge, the bill will generate between \$750 million and \$1 billion to upgrade wastewater treatment plants to enhance nutrient removal technology, upgrade septic systems, and plant cover crops to reduce nitrogen loadings into the Bay.

Both cover crops and riparian forest buffers play a significant role in reducing nutrient and sediment runoff into our waterways. DNR recently received approval of the federally-funded Conservation Reserve Enhancement Program for five more years, allowing Maryland to increase streamside buffers and wetlands enrolled in this program to 100,000 acres. And in 2004, we planted an additional 77 miles of riparian forest buffers along Maryland's streams and rivers, bringing the state's total to nearly 1,100 additional miles planted since 1996.

Preventing shore erosion is another important key to reducing nutrient and sediment inputs into our waterways. In 2003, DNR completed 11 shoreline erosion control projects, protecting more than 4,100 feet of shoreline, creating 66,490 square feet of marsh, and preventing 1,982

tons of sediment, 1,442 pounds of nitrogen and 950 pounds of phosphorus from entering the Bay and its tributaries. The agency also recently produced updated erosion information for over 7,719 miles of shoreline along the Chesapeake Bay, Coastal Bays and their tributaries, and created a digital inventory of natural bank features and water access and erosion response structures.

Bay Grasses

Underwater bay grasses produce oxygen, prevent erosion and provide habitat for aquatic life. While improved slightly in recent

years, the Bay's underwater grasses are at about one-third their historic high levels.

To protect our shoreline, living resources and water quality, we are committed to reestablishing grass beds in unvegetated areas, with a goal of planting 1,000 new acres in Maryland by 2008. Bay grass restoration on a scale this large has never before been attempted and DNR is using a combination of innovative new technologies and conventional equipment to ramp up our efforts. Innovations include the use of a mechanical harvesting boat to more



efficiently collect seeds from healthy, natural grass beds – seeds previously collected by divers, by hand; and a new custom-built boat that uses six evenly spaced nozzles to spread seed over a swath of Bay bottom approximately 24 feet wide.

It is important to note that planting or seeding of large beds may also lead to vigorous natural revegetation in adjoining areas. Therefore, by design we seed only portions of the unvegetated sites, with the hope that adjacent areas will ultimately be filled in and connected by natural revegetation.



Oysters

In 1885, the Bay's native oyster population, *Crassostrea virginica*, could filter a volume of water equivalent to that of the entire Chesapeake Bay in three days. Decimated by disease, with a harvest of less than one percent of 25 years ago, it would take in excess of three years to accomplish this task today.

Despite spending millions of dollars on native oyster restoration efforts over the past decade, the population remains at an all-time low. To explore and evaluate alternative restoration strategies, DNR has undertaken an Environmental Impact Statement (in cooperation with Virginia).

The alternatives under review include an option that would allow for introduction of a larger, faster growing, nonnative species appears to be more disease resistant, if it is determined safe. When research is completed, an independent panel of scientists will assist us in determining which alternatives (or combination of alternatives) will allow us to restore a viable population of oysters to the Bay. In any case, native oyster restoration efforts will also continue.

Chesapeake Bay Environmental Center (CBEC)

It is estimated that Maryland's Bay restoration efforts alone will cost upwards of \$10 billion – only about 40 percent of which is funded under existing federal and state programming.

DNR recently initiated development of the state's first comprehensive Bay restoration demonstration site in partnership with the CBEC. This 500-plus acre refuge on Maryland's Eastern Shore comes very close to replicating the habitat, water quality and problems facing much of the Bay. Here we

believe we can demonstrate, in microcosm, how specific actions to restore these lands and waters can be applied to the entire Bay.

Planting of cover crops and forest buffers, installation of living shoreline control measures, placement of oyster reefs, planting of bay grasses, installation of state-of-the-art septic systems and upgrading the efficiency of a nearby wastewater treatment plant will work in harmony to improve water quality, protect our shoreline, create habitat and encourage population growth among our living resources.

This site will be an integral part of a major marketing campaign to raise funds to support large-scale restoration projects. Our goal is to prove to the public, media, legislators and environmental groups that our three-point plan to restore the Bay — oyster restoration, bay grass replenishment and nutrient reduction — will work in Maryland as well as throughout the Bay watershed.

Monitoring & Assessment

Data gathered from regular monitoring and sampling of Maryland's waterways is key in assessing water quality, establishing guidelines and prioritizing restoration projects. In 2003, DNR:

 Surveyed more than 3,000 miles of Maryland streams and initiated \$6 million in restoration projects to address 8,000 specific environmental problems documented;

- Monitored and assessed the health of Maryland's 9,940 miles of non-tidal streams and rivers, 58 reservoirs, 2,522 square miles of estuaries, 32 miles of coastal shoreline and groundwater across the state;
- Collected over 6,000 water quality samples
 that provided critical information for the
 Chesapeake Bay water quality model used
 in determining the nutrient and sediment
 goals and establishing guidelines for new
 water quality criteria; and
- Maintained 127 long-term Chesapeake and Coastal Bays fixed water quality and habitat monitoring sites and 24 shallow water continuous monitoring sites that provide data every 15 minutes during April through October. The data is instrumental in characterizing local water quality conditions and extreme events such as Tropical Storm Isabel.



SUSTAINING NATURAL COMMUNITIES

■ ish, wildlife, forests and plants are critical elements of our ecosystem. These natural communities belong to all Marylanders, and all of our citizens and visitors have a role in protecting their health and diversity. While their value cannot be measured by economic yardsticks, they and the resource-based industries they support are major contributors to Maryland's state and local economies. Sustainability, by definition, calls for a careful balance between protection and use. Managing for sustainability means preserving our resources for the environment while also preserving opportunities for recreation and industry. Acting individually, the commercial and recreational users of our resources have minimal impact on the productivity of these natural systems. Acting collectively, though, users apply intense pressure.

Managing for a balance between these often competing uses and users is an important part of DNR's responsibility. Enhancing the viability, productivity and sustainability of these valuable ecosystems is a top priority of the agency. DNR employs state-of-the-art management and scientific practices to develop and implement natural resources stewardship plans -- which often spur healthy public dialogue. The agency's ultimate goal is to manage these resources to maximize opportunities for consumptive and non-consumptive uses and maximum environmental benefit.

Living Resource Revitalization

Sometimes sustaining or revitalizing a living resource population means giving them a little extra help. In 2003, DNR...

- Stocked 3 million American shad, 2.2 million hickory shad, 913,000 yellow perch and 237,030 largemouth bass to provide high value and quality commercial and recreational fishing opportunities;
- Planted 222 million or 305,000 bushels of native oyster spat;
- Achieved our 1,357-mile fish passage goal, removing stream blockages and constructing fish passages to reopen 352 miles of historic spawning habitat;
- Planted over 850,000 trees and seedlings on public lands with the help of a dedicated volunteer base; and



 Oversaw 32,500 Forest Service volunteers who spent 350,800 hours helping to maintain Maryland's healthy urban and rural forests.

Resource-Based Industries

In support of Maryland's significant resource-based economies, in 2003, DNR...

- Managed 7,313 licensed commercial watermen;
- Processed 588,472 sport fishing licenses;
- Issued or renewed 98,200 vessel registrations;
- Managed game species to serve approximately 135,000 licensed hunters, contributing nearly \$301 million to Maryland's economy;
- Completed the Maryland Strategic
 Forest Lands Assessment that
 evaluated 2.6 million acres all of
 Maryland's forest resources for
 their ecological and economic value,
 and their vulnerability of loss to
 development;
- Began working to establish on Maryland's public forests, in support of Governor's commitment to the economic, ecological and quality of life benefits of Maryland forests and the forest products industry, a \$2 billion industry that employs approximately 14,000 people;
- Completed Forest Stewardship Plans on 683 properties, implementing

- forest management practices on 7,399 acres, including planting more than 5 million seedlings and 163 miles of riparian forest buffers to meet Chesapeake Bay restoration goals; and
- Completed the process for certification of the 58,000-acre Chesapeake Forest Lands by the Sustainable Forestry Initiative and Forest Stewardship Council, ushering in a new era of forest management in Maryland.

Emergency Response

In September of 2003, DNR staff agencywide responded rapidly and decisively to the devastation caused by Tropical Storm Isabel. In addition to conducting emergency repairs on our own public facilities to get them reopened safely and quickly, we...

- Conducted evacuations of people and pets in impacted areas;
- Conducted search and rescue activities for missing persons;
- Removed hazardous debris from Maryland waterways, and towed and secured vessels;
- Streamlined licensing, permitting and funding procedures to allow local governments, citizens and businesses to get back on their feet without delay; and
- Provided emergency assistance information to the public via hotlines, publications and workshops.

Public Safety and Special Needs

Fostering public safety, serving citizens with special needs, and helping quell conflicts between citizens and wildlife are all ways in which DNR contributes to Maryland communities. In 2003, DNR...

- Responded to more than 10,000 nuisance wildlife calls including 24/7 emergency response to injured deer or black bears creating human safety problems;
- Funded processing of 100,000 pounds of edible venison for needy families through Farmers and Hunters Feeding the Hungry;
- Provided specialized hunting services including 1,100 crossbow permits for disabled hunters, 1,750 permits to landowners receiving deer damage to commercial crops (resulting in a take of +12,000), and 4,000 blind-site licenses;
- Worked with the Federal Emergency Management Agency (FEMA) and Maryland Emergency Management Agency (MEMA) after Tropical Storm Isabel to ensure receipt of all available funding allocations for more than 100 repair projects valued at more than \$5 million;
- Provided instruction to nearly 8,600 citizens attending hunter safety classes held by the Natural Resources Police with assistance from their Volunteer Reserve Officers, as well as 6,500 participants attending safe boating classes;

- Provided protection to Maryland's
 2.6 million acres of forestland from wildfires; and
- Trained over 750 firefighters for the protection of communities and natural resources from wildfire and suppressed over 660 wildfires.

Environmental Review

To ensure that human activities on the land and in the water do not further degrade water quality and natural communities, in 2003 DNR...

Reviewed 2,513 projects statewide –
including transportation projects, tidal
and non-tidal wetland permits, water
appropriation permits, dam safety
permits, mining permits, industrial
discharge permits, toxic material
permits and Army Corps of Engineers
permits -- for natural resource impacts.

PRESERVING THE MARYLAND LANDSCAPE

rom agricultural fields and forestland to state parks and open space, Maryland's public landscape is rich and diverse. Augmenting these environmental and natural resources are considerable historic and cultural assets. Citizens and visitors have access to more than 500 buildings of historical significance on 259 sites across the state, dating back to the 1600s. These notable landmarks provide a window into Maryland's rich history as one of America's original 13 colonies.

Managing more than 435,000 acres of Maryland's landscape for environmental benefits, recreational enjoyment and resource-based industry is no small charge. In addition to overseeing these natural and historic treasures, DNR land managers work to foster a stewardship ethic among users, encouraging them to minimize the impacts of their recreational uses. Marylanders, in turn, take their stewardship responsibilities seriously, from volunteering at state parks to practicing Leave No Trace ethics when enjoying our great outdoors.

Under the leadership of Governor Ehrlich, DNR is working to improve Maryland's approach

to maintaining public lands and facilities over the long term, through utilizing low-impact development and maintenance principles and seeking new means of self-support.

Recreation

There is almost no limit to the recreational opportunities available on Maryland public lands. In 2003, DNR...

- Managed 93 sites including 48 state parks and successfully served more than 11 million visitors in Maryland State Forests and Parks;
- Coordinated the addition of over 15 miles of land trails and over 10 miles of water trails to the statewide network of greenways and water trails, which now includes over 600 miles of major regional land trails and over 400 miles of water trails on federal, state and county property; and
- Oversaw 11,000 State Forest and Park Service volunteers, 157 volunteer rangers and 27
 Friends groups who together provided 231,000 hours of volunteer service.

Preservation

One way to preserve land without the high price tag of most acquisitions is through the application of easements. By selling or donating development rights to the State, citizens can ensure private lands will be kept in their natural state in perpetuity. In 2003...

- DNR conserved 4,828 acres in 12 counties under the Rural Legacy Program;
- Completed the 700th land conservation easement under Maryland Environmental Trust, bringing its cumulative total to more than 100,000 acres since 1972; and
- Permanently protected 1,409 acres through easements in seven counties under Maryland's Conservation Reserve Enhancement Program and initiated a new process for easement acquisition.



FY'03

Unit	FY '03 Actual	FY '04 Actual
Capital Grants & Loan Administration State Forest & Park Service Natural Resources Police Resource Assessment Fisheries Service Watershed Services Office of the Secretary, et. al. Wildlife & Heritage Service Forestry Services Engineering & Construction Licensing & Registration Service Ches Bay Critical Area Commission Resource Planning Maryland Environmental Trust	54,843,673 42,461,992 27,849,010 17,080,020 16,460,648 16,439,975 11,191,620 10,190,551 9,140,994 4,691,089 3,624,805 1,947,345 1,643,759 655,262	20,369,344 38,923,339 26,646,316 16,832,250 15,383,621 13,761,912 11,658,223 8,250,897 9,190,742 4,903,041 3,719,394 2,010,965 1,527,500 619,531
Total:	218,220,743	173,797,075

