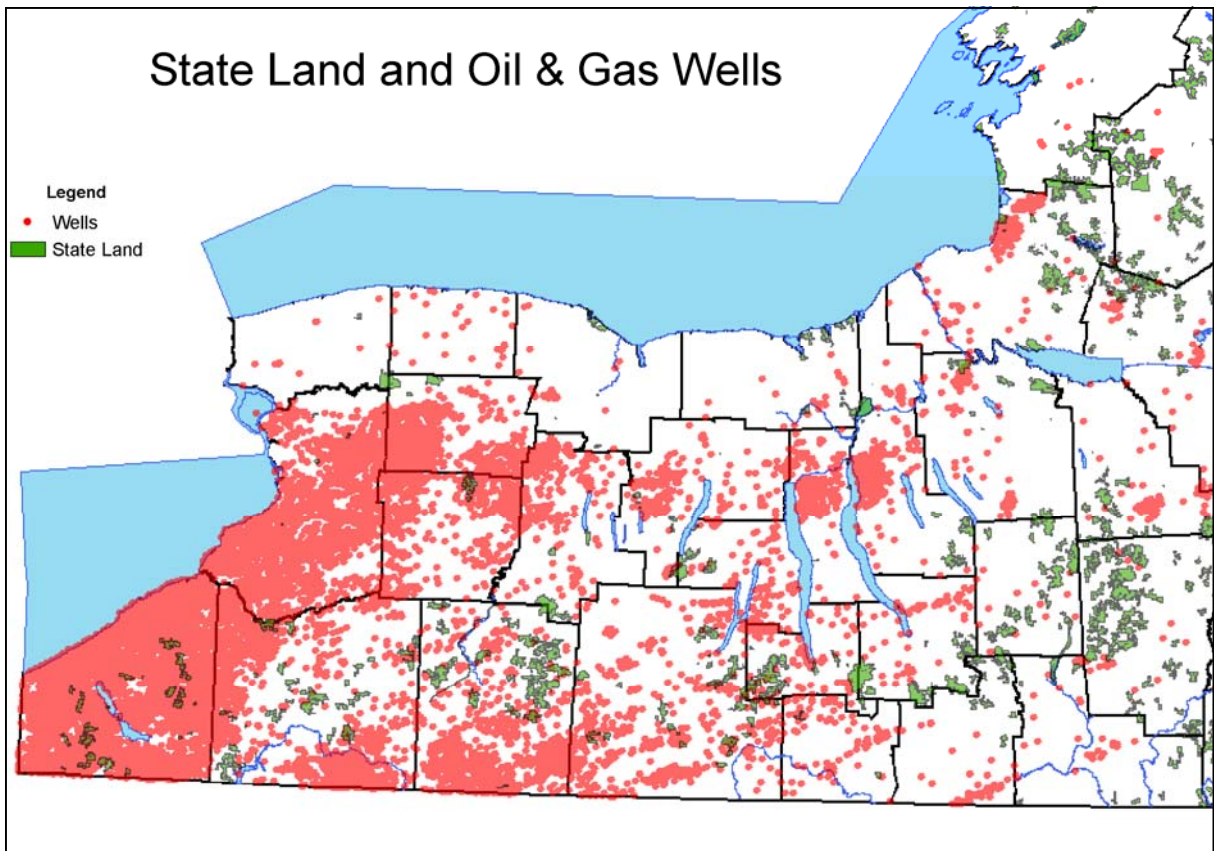


**New York State
Leasing of State Lands for
Oil and Gas Development
2007 Report**

**New York State
Department of Environmental Conservation
Division of Mineral Resources
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www.dec.ny.gov/energy/205.html





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Introduction

Oil prices rose to over \$90 per barrel while natural gas prices remained at high, but stable, prices in 2007. Interest in leasing of state lands and activity on existing state leases remained high due to the high prices and strong activity. This report describes oil and gas activity through year-end 2007 in New York State, focusing on activity on state lands. It contains detailed information on revenues generated from oil and gas production on state lands, the number and location of active state leases, lease sales of state lands, and the leasing process. Additional information concerning leasing of state lands may be obtained by contacting the Division of Mineral Resources at 518-402-8056.

Some 2007 highlights from statewide industry activity include:

- Natural gas production in New York decreased slightly from a record high of 55.3 billion cubic feet (BCF) in 2006 to 54.9 BCF in 2007.
- Yearly oil production was 386,887 barrels, an increase of 67,788 barrels from 2006's total of 319,099.
- Drilling permits issued by the Division of Mineral Resources declined slightly, from 622 in 2006, to 579. Even with this decrease in permits, industry activity remained strong as compared to that seen in the recent past.

Some 2007 highlights pertaining to state land leasing include:

- Leases were approved by the Office of State Comptroller and the Attorney General for the 2006 auction of 16 tracts consisting of 19,277 acres of state land. The State received high bonus bids totaling \$8.98 million with an average bid of over \$467 per acre, both record numbers for state land leasing.
- Revenue from oil and gas leases on state lands totaled over \$11.7 million in 2007, more than double the previous annual record revenue of \$5.3 million received in 2003.
- Although nearly 59,000 acres of state land have been leased since 1999, only 37 of these acres have been disturbed by well drilling and road and pipeline construction.
- State acreage currently under lease increased to 83,021 acres in 2007 from 64,521 acres in 2006 due to the finalizing of new leases from the 2006 sale.

State Acreage Under Lease

Under the authority contained in Article 23, the New York State Oil, Gas and Solution Mining Law, the DEC acts as leasing agent for State Reforestation Areas, Multiple Use Areas, Wildlife Management Areas and other state lands such as Department of Transportation rights-of-way. The Department has had an active leasing program since the 1960s and some current state leases date back to 1977.

As of year-end 2007, state acreage leased for oil and gas development totaled 83,021 acres in 106 leases, an increase of 19,463 acres from the 2006 year-end total. Approximately one-third of the state acreage under lease is in five-year primary terms and the state is due delay rentals. Delay rentals are yearly payments, typically five dollars per acre per lease. If the five year primary term of a lease ends without a well establishing production, the lease expires and oil and gas development rights return to the State.

If the lessee drills a well before the expiration of the lease and discovers and produces hydrocarbons, the lease enters its secondary term. The secondary term lasts as long as commercial amounts of hydrocarbons are produced from the leased tract. Delay rentals are no longer due, but the State receives a percentage share of the proceeds from the sale of production, free of the costs of production. The current percentage share, or royalty, is one-eighth or 12.5% of gross production revenue.

After commercial production from all wells on a lease ceases, the lands are reclaimed to Department standards by the operator, the lease is terminated and oil and gas rights are returned to the state.

At year-end 2007, there were 32,452 state acres in 61 leases in their secondary terms and the State's royalty revenue derived from these leases.

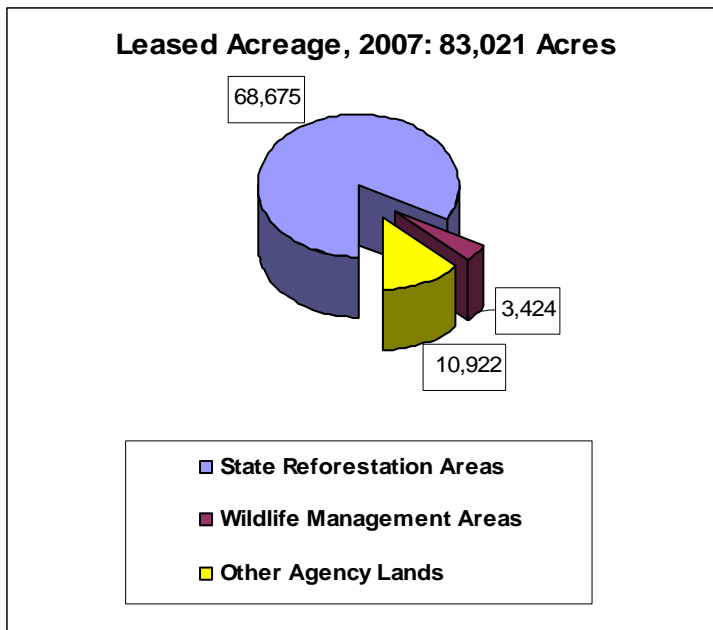


Figure 1. State leases broken down by type and lease status.

Acres Under Lease and Lease Status at Year-End 2007	
State Reforestation Areas	
Delay Rental	36,292
Royalty	30,192
Storage	2,191
Wildlife Management Areas	
Delay Rental	2,365
Royalty	1,004
Storage	55
Other Agency Lands	
Delay Rental	0
Royalty	1,256
Storage	9,666
Total	83,021

2007 Leasing Summary by County									
Amount of Acres Leased						Number of Leases			
County	Rental	Royalty	Storage	Total		Rental	Royalty	Storage	Total
Allegany		126		126			1		1
Broome	512			512		1			1
Cattaraugus		62	9,981	10,043			2	8	10
Cayuga		62		62			4		4
Chautauqua		15,715		15,715			29		29
Chemung	729	582		1,311		2	8		10
Cortland	7,791			7,791		4			4
Erie		10	255	265			2	2	4
Ontario			55	55				1	1
Schuylar	4,299	10,019	1	14,319		3	6	1	10
Seneca		17		17			1		1
Steuben	18,232	5,859	1,620	25,711		14	8	2	24
Tioga	6,179			6,179		6			6
Tompkins	915			915		1			1
Total	38,657	32,452	11,912	83,021		31	61	14	106

Figure 2. Tabulation of leases by location, acres leased and status. The amount of state acres leased in each county and the lease status of these acres is detailed on the left. The number of active state leases in each county and their status is detailed on the right.

Several companies purchase and inject natural gas into depleted gas fields or caverns dissolved in salt beds in New York during summer months when the price and demand for gas are low. They produce and sell the gas during winter months when the demand and price is higher.

State lands may be used for such storage projects

when a storage lease is granted by the State. The State receives yearly rental fees from storage fields under state lands and additional fees based on the volumes of natural gas injected and withdrawn during a given year.

The year-end 2007 total of acreage under storage leases was 11,912, the same as the previous year.

2006 Oil and Gas Lease Sale

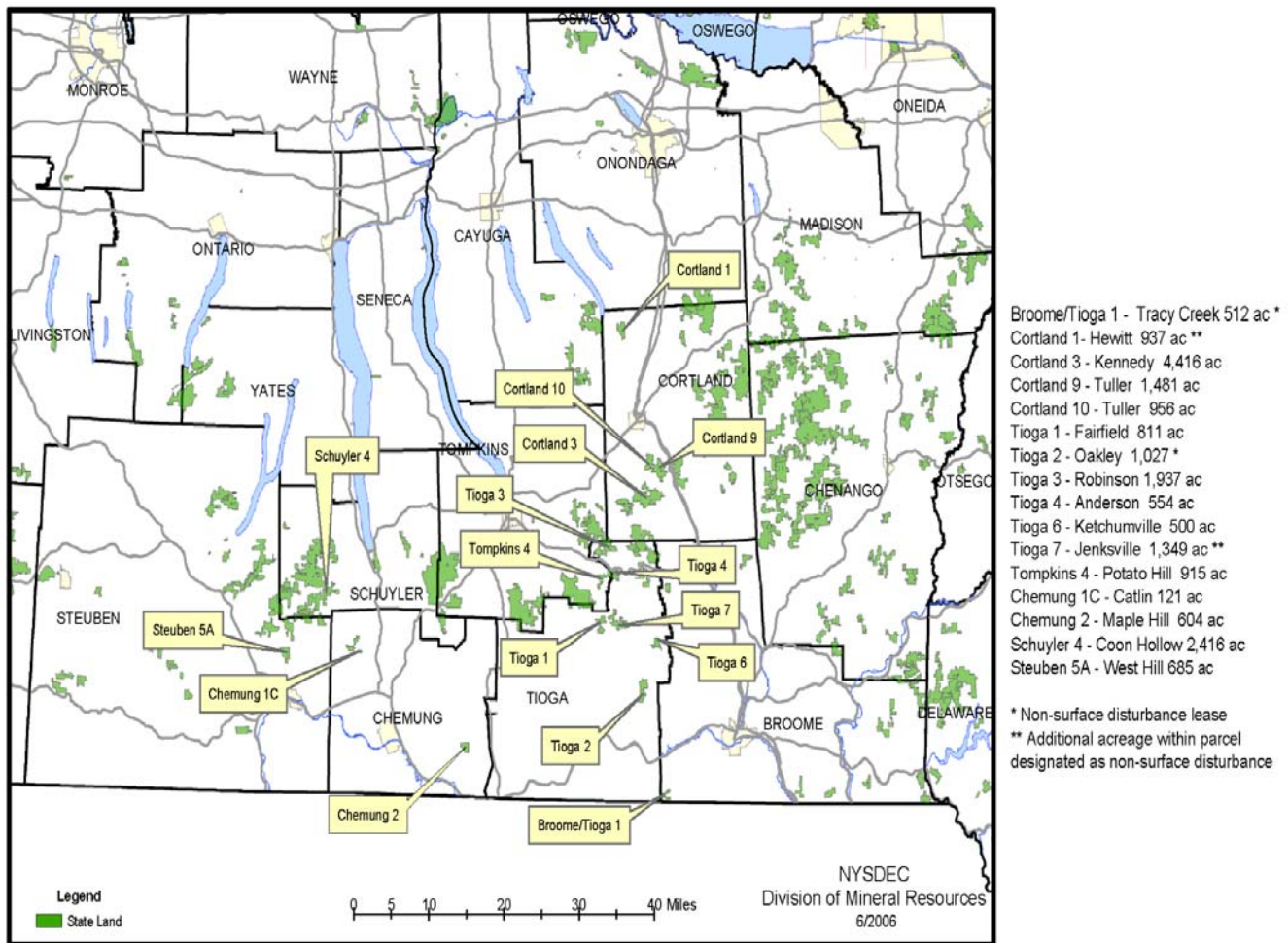


Figure 3. Map showing the locations of lands leased in the Department’s August 2006 auction of oil and gas leases on selected state forests.

Nominations and bid guarantees submitted by the oil and gas industry initiated a competitive sale review by the Department for 21,384 acres of state land in Cayuga, Chemung, Cortland, Schuyler, Tioga and Tompkins Counties. Tract assessments were conducted and special stipulations were developed by the Department to protect sensitive areas of the nominated tracts. The special conditions developed excluded approximately 12,300 acres, or 64%, of the lands that were ultimately included in the sale from surface occupancy by oil and gas activities.

These assessments and stipulations were presented at public meetings in June of 2005 in Cortland and El-

mira. Written and oral comments and questions on the proposed sale were accepted through October 7, 2005 and a document responding to questions was sent to interested parties on May 30, 2006. Based on input from the public, the Department removed Bear Swamp State Forest from the proposed sale and modified the Jenksville State Forest and Oakley State Forest leases to prohibit pipeline and drill-pad locations, making leases for these two state forests no-surface-occupancy leases.

The remaining 16 tracts, consisting of 19,277 acres, were put out for lease via a sealed-bid process with a bid opening on August 23, 2006.

2006 Lease Sale Results

State leases are awarded to the bidder who submits the highest dollar per acre bonus bid on each tract. The total bonus due from the winning bidder is the dollar per acre bid times the amount of acres in the tract.

Four companies submitted bids in the sale, with Chesapeake Energy of Charleston, West Virginia the high bidder on 11 tracts totaling 15,472 acres and Fortuna Energy of Horseheads, New York the high bidder on five tracts totaling 3,754 acres. The total of the high bonus bids was \$8,988,368.54 with an average price per acre bid of \$467.48, both record numbers for state land leases (Figure 4).

For comparison, the 2003 auction of state land grossed \$4.58 million in bonus bids for 26,500 acres of state land, averaging \$173 per acre. The 1999 sale of 13,000 acres grossed \$3.02 million in bonus bids or \$232 per acre of state land.

In 2007, the contracts for these leases were finalized and approved by the Office of the State Comptroller and the Attorney General. The State has received all the bonus money due from the 2006 lease sale. No wells had been drilled on these lands by year-end 2007.

2006 New York State Land Oil and Gas Lease Sale Results

Area	Name	Acres	High Bidder	Bid/Acre	Bonus Bid
Chemung SRA #1C	Catlin	125.09	Fortuna Energy	\$54.29	\$6,791.14
Chemung SRA #2	Maple Hill	604.11	Chesapeake	\$858.00	\$518,326.38
Cortland SRA #1	Hewitt	937.27	Chesapeake	\$832.00	\$779,808.64
Cortland SRA #3	Kennedy	4,416.26	Chesapeake	\$458.00	\$2,022,647.08
Cortland SRA #9	Tuller Hill	1,481.08	Chesapeake	\$458.00	\$678,334.64
Cortland SRA #10	Tuller Hill	955.9	Chesapeake	\$458.00	\$437,802.20
Schuyler SRA #4	Coon Hollow	2,416.17	Chesapeake	\$858.00	\$2,073,073.86
Steuben SRA #5A	West Hill	684.67	Chesapeake	\$613.00	\$419,702.71
Tioga SRA #1	Fairfield	811.16	Fortuna Energy	\$284.67	\$230,912.92
Tioga SRA #2 (no entry lease)	Oakley Corners	1,027.25	Chesapeake	\$58.00	\$59,580.50
Tioga SRA #3	Robinson Hollow	1,937.35	Chesapeake	\$409.00	\$792,376.15
Tioga SRA #4	Anderson Hill	554.36	Fortuna Energy	\$238.78	\$132,370.08
Tioga SRA #6	Ketchumville	500.01	Chesapeake	\$153.00	\$76,501.53
Tioga SRA #7	Jenksville	1,349.04	Fortuna Energy	\$283.36	\$382,263.97
Tompkins SRA #4	Potato Hill	915.12	Fortuna Energy	\$236.58	\$216,499.09
Broome Tioga MUA #1 (no entry lease)	Tracy Creek	512.31	Chesapeake	\$315.00	\$161,377.65
Total		19,227.15			\$8,988,368.54
Average High Bid/Acre				\$467.48	

Figure 4. Results from the Department's 2006 auction of oil and gas leases on selected state forests.

2007 Leasing Revenue Results

Total revenues in 2007 jumped to \$11.8 million from \$3.3 million in 2006 due to the posting of \$8.9 million in bonus bids from the 2006 state land lease sale. Otherwise revenues would have declined slightly due to a decline in royalties. Royalties are dependent on drilling and production and are the steady source of leasing revenues given that lease sales are not held annually. In years when sales were held, 1999, 2003 & 2006, revenues increase dramatically.

The upswing in royalty revenue since 2001 is attributable to production from the Trenton-Black River play in the central part of the State and to the leasing of state lands in this area in 1999 and 2003.

The State began receiving Trenton-Black River royalties from the first well on these lands in 2000 and royalty revenue sharply increased as more wells were completed with state lands in producing units (Figure 5 below and Figure 7). As of year-end 2007, the State was receiving royalties from 15 Trenton-Black River wells, up from 13 wells at year-end 2006.

Royalty revenue for 2007 was approximately \$2.5 million, a decrease of \$600,000 from 2006. Natural gas production from some of the older Trenton-Black River wells accelerated the decline first seen in 2006.

Since the State first began receiving Trenton-Black River royalties in 2001, yearly royalty revenue increased from \$75,000 to over \$3 million in both 2005 and 2006 before taking a slight dip in 2007. Total Trenton-Black River royalties at year-end 2007 were \$9.5 million. To date no wells have been drilled on the lands leased in 2006.

Royalties are also paid on wells producing from the Medina sandstone in Chautauqua County, but these are low volume wells in comparison to the Trenton wells. Interest is intensifying in the Marcellus shale formation in south-central New York and wells are currently being drilled. This play could significantly impact royalty revenues in the future if state lands are leased in the play area.

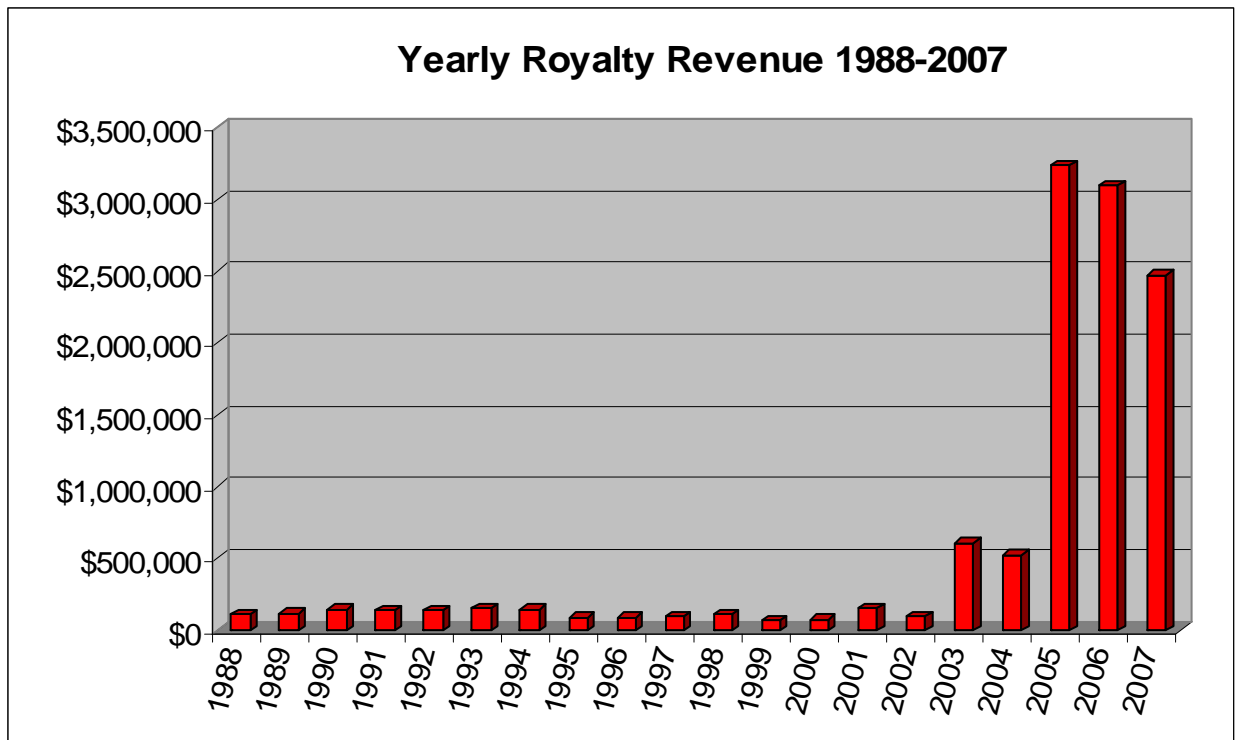


Figure 5. Royalty revenue received by the State from oil and gas production on state lands. The State receives one-eighth of the revenue generated by wells on state lands, in the proportion that state acreage comprises the producing unit.

Leasing Revenue By Payment Type 1988-2007					
Year	Bonus Bids	Delay Rentals	Royalties	Storage Fees	Yearly Total
1988	\$70,070	\$9,646	\$113,581	\$34,249	\$227,546
1989	\$86,188	\$10,337	\$120,391	\$29,104	\$246,020
1990	\$53,051	\$20,647	\$142,635	\$43,610	\$259,943
1991	\$42,070	\$33,490	\$138,092	\$42,972	\$256,624
1992		\$39,578	\$139,978	\$28,542	\$208,098
1993	\$3,970	\$37,812	\$155,963	\$37,950	\$235,695
1994		\$12,285	\$144,336	\$33,019	\$189,640
1995	\$13,837	\$4,574	\$92,449	\$32,809	\$143,669
1996		\$3,595	\$92,817	\$47,180	\$143,592
1997	\$31,424	\$4,006	\$97,502	\$35,096	\$168,028
1998	\$137,951	0	\$107,789	\$33,783	\$279,523
1999	\$3,027,580	\$43,365	\$65,771	\$69,689	\$3,206,405
2000		\$42,280	\$75,327	\$9,781	\$127,388
2001		\$118,732	\$150,922	\$178,128	\$447,782
2002		\$79,435	\$96,620	\$73,617	\$249,672
2003	\$4,583,239	\$16,486	\$609,821	\$117,381	\$5,326,927
2004		\$130,746	\$525,050	\$109,986	\$765,782
2005		\$80,534	\$3,235,206	\$123,930	\$3,439,670
2006		\$75,305	\$3,096,620	\$125,007	\$3,296,932
2007	\$9,001,335	\$166,868	\$2,466,312	\$133,298	\$11,767,812
Total	\$17,050,715	\$929,721	\$11,667,182	\$1,339,131	\$30,986,749

Figure 6. Revenue generated from leasing of state lands for oil and gas development for the last twenty years. Revenue is categorized by the payment type. Over 90% of the \$30+ million received in this period has been received in the last nine years.

Revenue for all leasing categories over the last 20 years is displayed in Figure 6. Leasing revenue for the period from 1988 to 1998 averaged approximately \$214,000 per year due to low oil and gas prices and the lack of new leasing and drilling on state lands.

The average yearly revenue for the last nine years, however, jumped fifteen-fold to over \$3.1 million per year. The primary reasons for the jump in revenue are the lease-sale bonuses in 1999, 2003 and 2006 and the royalty revenue from the Trenton-Black River wells on state land.

Delay rentals, the yearly fee for undeveloped state land, also increased, mainly due to payments from the 2006 sale lands which came due at the end of 2007.

Storage fees for natural gas storage fields on, or under, state land increased four-fold over the 20-year period. The rise in the price of natural gas over this period is the primary reason for the increase in storage fees. Most state storage lease fees are tied to the price of natural gas and, as the price of gas rises, the fees due the State also increase. Another reason was the issuance of a lease for a new storage project in 1995 and the additional storage fees associated with this project.

State Lands in Producing Trenton-Black River Units						
State Land (year leased)	Well Name	State Acres Disturbed	Well Status	Gross Production	NYS Net Royalty	State Net Royalty
Chemung SRA 1 (1999)	Chemung SRA #1	1.5	Producing	3.9 BCF	2.90%	\$687,172
	Root #1	0	Producing	3.3 BCF	0.36%	\$75,442
	Hardy #1447A	0	Producing	1.7 BCF	2.80%	\$232,870
Schuyler SRA 1 (1999)	Gran Prix 624066	7.7	Producing	2.6 BCF	9.04%	\$1,953,943
	Schuyler 1B	5.7	Shut-in	NA	TBD	\$0
	Aletto	1.01	Producing	.033 BCF	0.005	\$15,304
Schuyler SRA 2 (1999)	SRA 2 #1	2.5	Producing	1.3 BCF	11.55%	\$927,840
Steuben-Schuyler 1 (2003)	Frost #1	0	Producing	1.9 BCF	5.80%	\$85,408
Steuben SRA 5 (1999)	Howe #1A	0	Producing	8.3 BCF	0.16%	\$74,005
	Van Vleet #1	0	Producing	3.3 BCF	1.00%	\$191,637
Steuben SRA 7 (2003)	Swan #1	0	Producing	1.47 BCF	5.20%	\$536,530
Steuben SRA 3 (2003)	SRA 3 #1	5	Producing	3.2 BCF	7.70%	\$2,038,501
	SRA 3 #2	3	Producing	2.6 BCF	10.40%	\$2,646,303
	Drumm #1	0	Producing	1.55 BCF	0.02%	\$751
Steuben SRA 14 (2003)	Behm #1	0	Producing	.19 BCF	7.22%	\$44,123
Total		36.5 acres*				\$9,509,829

*includes acreage disturbed by dry holes & pipelines

Figure 7. Numbers as of December 31, 2007

BCF = Billion Cubic Feet of gas

T/A = Temporarily Abandoned

TBD = To Be Determined

NA=Not Applicable

State Net Royalty= % of state lands in unit times one-eighth

Wells with DOT lands in the producing unit are excluded from this table.

Trenton-Black River gas production from state lands continued to be the driving force behind the recent surge of leasing revenues (Figure 5). It was responsible for the \$16.7 million in bonus bids since 1998. Although the State was receiving royalties from 221 wells, 108 wells located on state lands and 113 wells unitized with state lands at the end of 2007, royalties from 10 Trenton-Black River wells accounted for 95% of all royalties received in the last 10 years. Three of these 10 wells, the Gran Prix #2 and the Steuben SRA #3-1 and 2 wells, were responsible for close to 64% of that revenue. Furthermore, these three wells had each been producing for less than four years.

As of year-end 2007, less than 37 acres of state land leased in the 1999 and 2003 lease sales had been disturbed by drill sites or gas pipelines (Figure 7). No wells had been drilled on the 2006 lease sale lands at year end 2007. The revenue per acre of disturbed land from these sales will continue to grow as the State receives additional royalty revenue from the producing wells located on these lands.

The Department awards a lease to the company that submits the highest, sealed bonus bid, which reflects the winning bidder's pre-drilling evaluation of potential for oil and gas production. Lease bonuses are guaranteed income to the State from successful competitive lease sales.

Royalty revenue is only received if, and when, a well drilled on state land produces oil or gas. While royalty revenue from a well may ultimately yield more revenue than bonus income, exploration is a risky venture and there is no guarantee that any royalty revenue will be received from a lease. Of the 32 leases awarded by the State in the 1999 and 2003 lease sales, only ten of these leases have had wells drilled on them or acreage included in a producing unit.

Financial results from the last ten years displayed in Figure 8 show that the Department receives a majority of leasing revenue from guaranteed bonus income followed by substantial royalty revenue. Storage and delay rental revenues are substantially less.

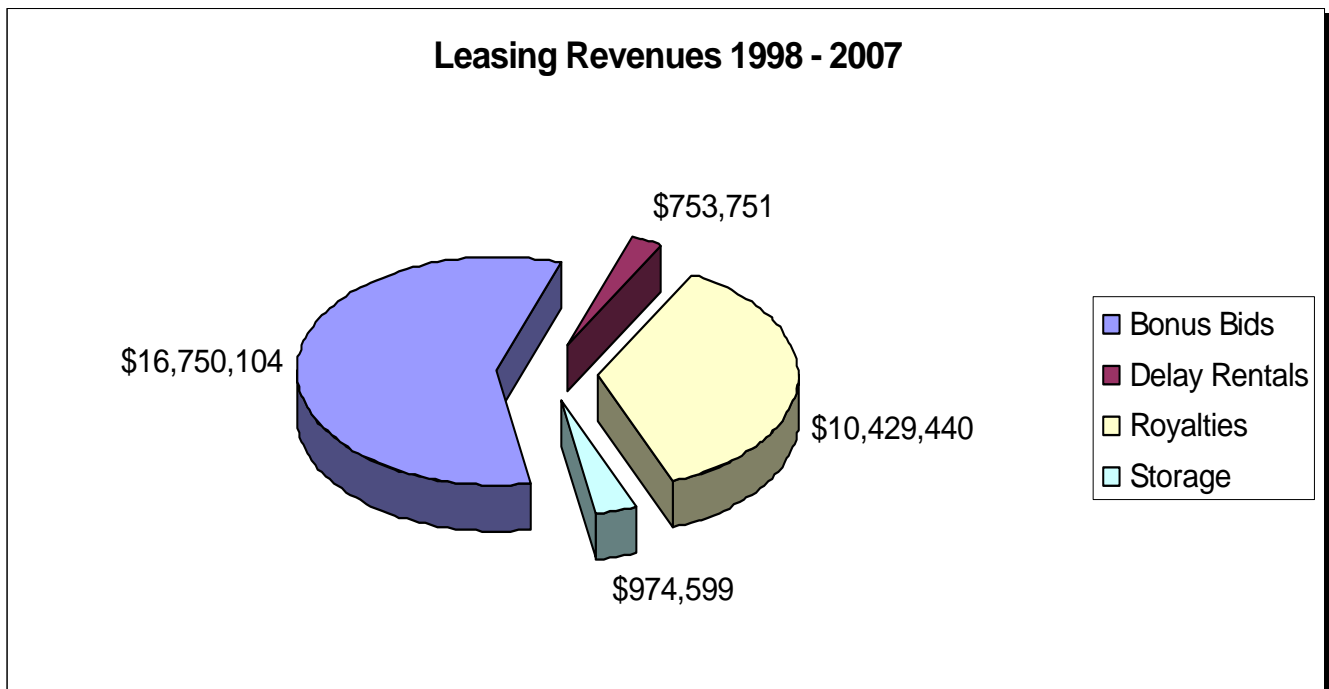


Figure 8. A summary of leasing revenue by type of payment for the last ten years.

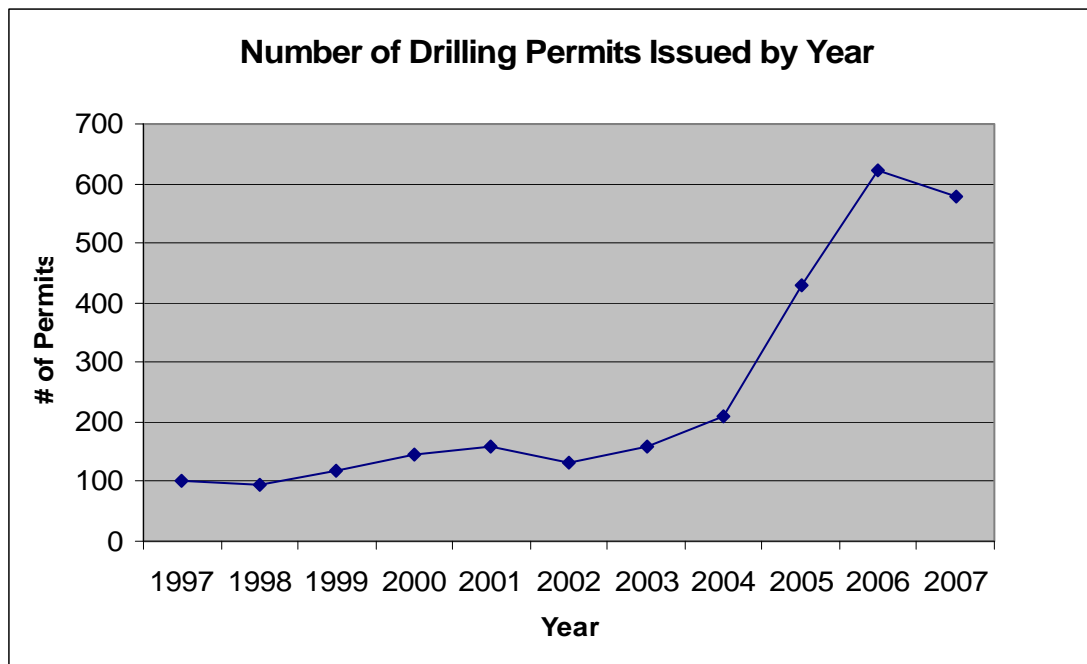


Figure 9. The number of oil and gas well drilling permits issued by the Department from 1997-2007.

Along with strong results from drilling of Trenton-Black River wells, recent increases in the price of oil and gas have also been responsible for increased oil and gas activity in the State.

Figure 9 shows the number of drilling permits issued by the Department for the period from 1997 to 2007. The sharp increase in drilling permits issued since 2003 coincided with the recent price rises for oil and gas. The number of permits issued in 2006 and 2007 reached levels not seen in the State in nearly 20 years.

State gas production for 2007 remained at record levels due to the high level of drilling activity, and decreased slightly from 2006's 55.3 billion cubic feet (BCF) to 54.9 BCF. Natural gas production from Trenton-Black River reservoirs also declined from 2006's 42.8 BCF to 41.3 BCF as new additions to production were insufficient to offset declines in some longer-producing Trenton-Black River wells (Figure 10).

In addition to high levels of gas production from Trenton-Black River reservoirs, production from other formations, predominantly shallow, low-volume reservoirs such as the Medina Formation, increased from 12.5 BCF in 2006 to 13.6 BCF in 2007. High natural gas prices made it economic for operators to drill low-volume wells in established Medina fields and to develop other newly-discovered shallow gas reservoirs.

Oil well drilling permits and completions have surged nearly ten-fold in the last few years and oil production in New York has consequently increased over 50% in just the last year after decades of decline (Figure 11). Production rose to 386,887 barrels in 2007. Although oil wells in New York produce small amounts of oil, operators have been able to profitably drill and operate such wells due to their low drilling costs and high oil prices.

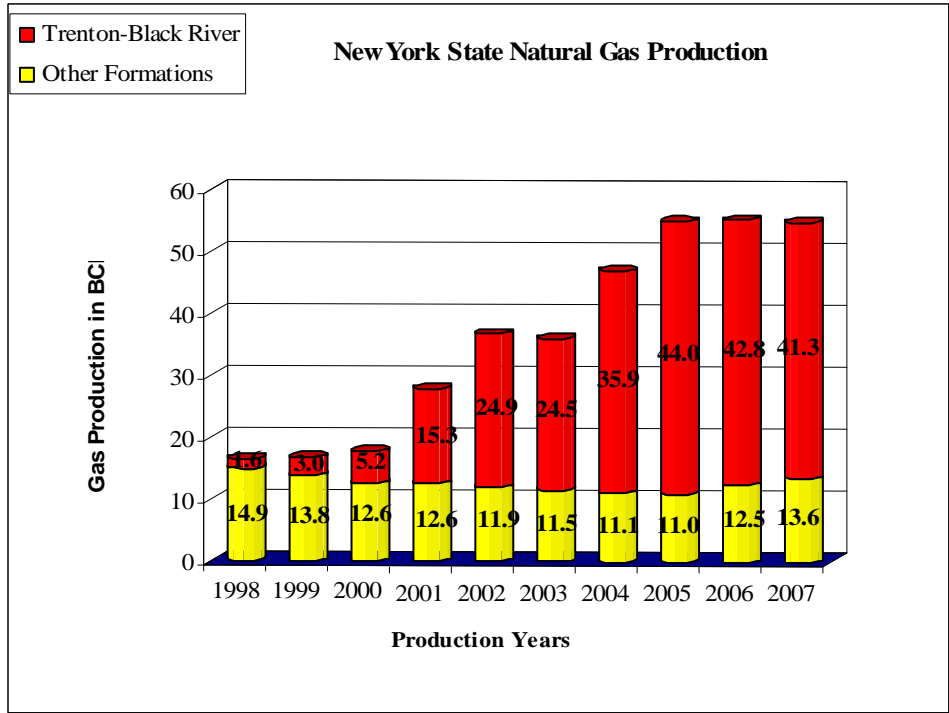


Figure 10. Natural gas production in New York 1998-2007. Gas production declined slightly to 54.9 BCF in 2007 from 55.3 BCF in 2006. Production from the Trenton-Black River Formation accounted for 75% of the gas produced in the State.

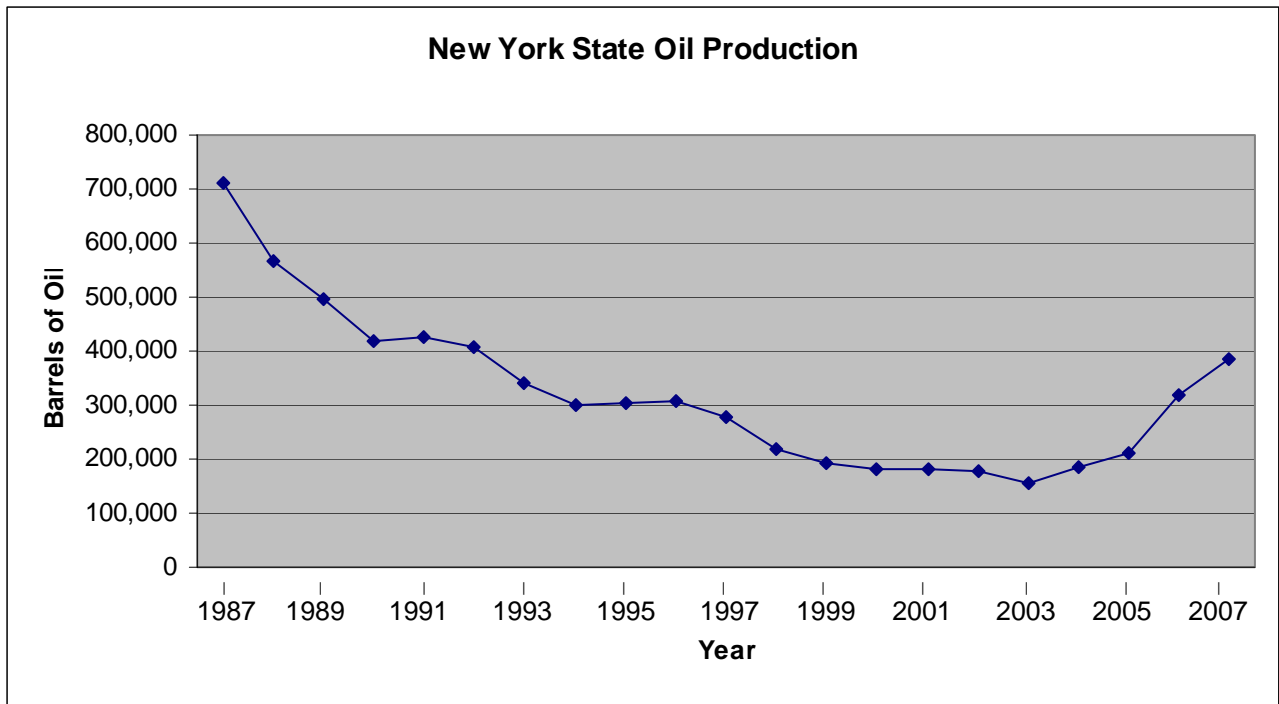


Figure 11. The last 21 years of oil production in New York. Hundreds of oil wells drilled in the last four years have reversed a long slide in the amount of crude oil produced in the State.

Appendix A: History of Oil and Gas Leasing on State Lands

Economic conditions during the Depression of the 1920s and 1930s were responsible for large scale farm abandonment in New York as it became uneconomic to continue operations on many old, worn-out farms. To help alleviate these conditions, the state legislature enacted the State Reforestation Law in 1929 which authorized the Conservation Department to acquire abandoned farms for reforestation and timber harvesting and to employ people in such work. The Conservation Department made the first reforestation land purchases in 1930 and today reforestation acreage totals approximately 600,000 acres.

The Legislature recognized the possibility that oil and gas were present beneath reforestation lands since oil had been produced in western New York in commercial quantities since the 1870s and several large natural gas fields had been discovered in southern Steuben and Allegany counties in the 1930s.

Leasing of these lands for oil and gas extraction was addressed in 1933 with the enactment of Article 3, the Conservation Law. Under §60-b of this statute, oil and gas development is expressly permitted on

reforestation lands so long as such development does not interfere with reforestation efforts.

The Department has no record of any oil and gas leases the Conservation Department or Office of General Services may have awarded but records show that several wells were drilled in the 1940s on reforestation areas in Steuben County. These reforestation areas had been acquired in the 1930s, so the State has likely been granting oil and gas leases on reforestation areas since that time.

With the creation of the Department of Environmental Conservation in 1970, pre-existing environmental law was recodified into Article 23. Oil and gas regulatory functions and oversight of leasing of state lands were assumed by the Bureau of Mineral Resources in the Division of Lands and Forests. Article 23 was amended in 1981 and, among other things, oversight of leasing of state lands was assigned to the newly-created Division of Mineral Resources.

Early leases granted by the Department had 10-year terms during which commercial production had to be

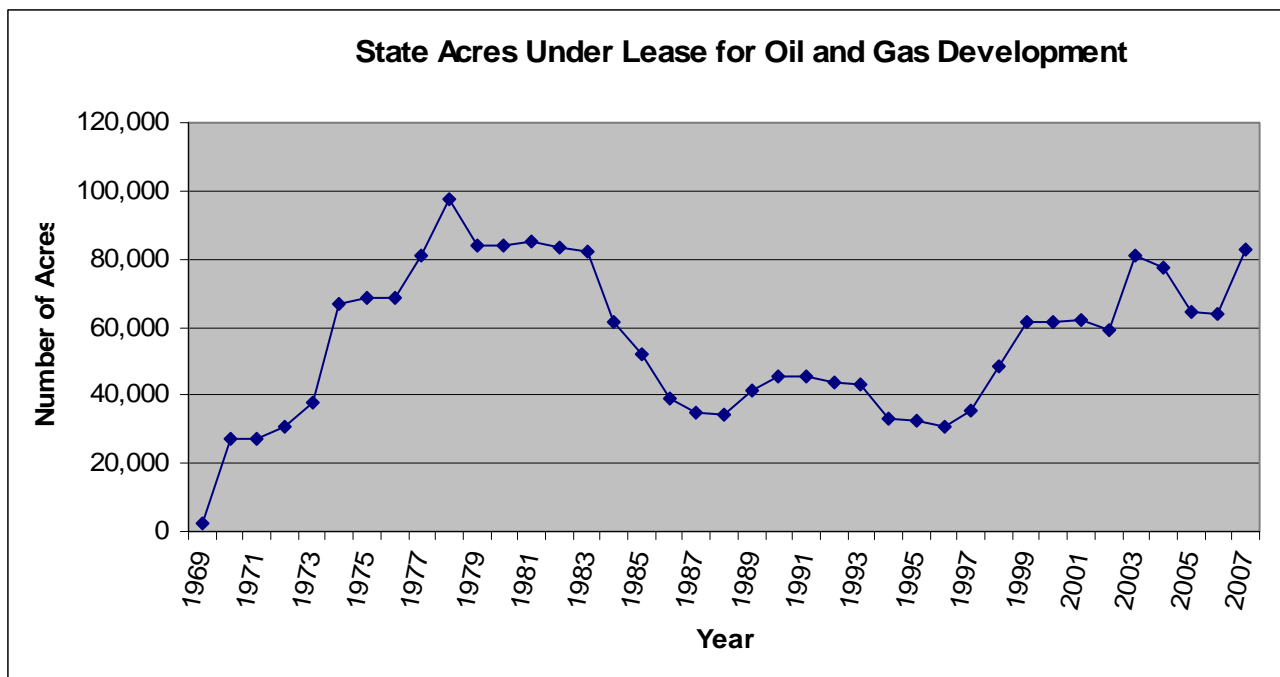


Figure 12. The yearly number of state acres under lease by DEC for oil and gas exploration for the period 1968-2007 (yearly totals combine State Reforestation Area, Wildlife Management Area, Multiple Use Area and DOT rights-of-way acreage). Totals do not include leases of Parks land by OPRHP.

established for the lease to continue and enter its secondary term. If no production is established during a lease's primary term, the lease is terminated and oil and gas development rights return to the State. If production is established by a well, the lease remains in effect as long as commercial production continues on the lease. In the 1987 lease sale and all subsequent sales, primary terms for state leases were lowered to five years to encourage more prompt development of leases.

There appears to have been little industry interest in the oil and gas potential of state lands prior to the 1970s. Rising energy prices in the 1970s resulted in nominations and awards of oil and gas leases for eligible state lands. Large lease sales were held in 1974 and 1978 and leased state land reached a peak of nearly 100,000 acres in 1979.

Oil and gas development on state lands in the 1970s and 1980s was primarily shallow, low volume Medina sandstone gas reservoirs in Chautauqua County. There are 100 such wells currently active on state lands.

Discoveries of large volumes of natural gas in Trenton-Black River reservoirs in the late 1990s in Steuben, Schuyler and Chemung counties renewed energy industry interest in leasing state lands. Industry nominations led to the lease sales in 1999, 2003 and 2006 and the amount of state acres leased has more than doubled since 1998.

Of the acres of state land leased in 1999, leases have expired on 2,862 acres and the oil and gas development rights on those lands have returned to the State. The remaining approximately 10,000 acres are held by production as long as royalties are received from the well or wells holding each lease.

As of year-end 2007, only 6,558 acres of the lands leased in the 2003 sale were held by production. Absent any new production, oil and gas development rights on the remaining approximately 19,400 acres from this sale that are not held by production from a well will return to the State when the five-year leases expire in 2008.



Figure 13. The site of Fortuna Energy, Inc.'s Root well in Chemung County. Although the well is located on private lands, a portion of Chemung State Reforestation Area #1 lands pictured in the background is pooled into the producing unit.