

# NY's Water Withdrawal Regs



**New York's 100,000  
gal/day water  
withdrawal rule:  
Red ribbon  
safeguard or just  
red tape for  
New York's waters?**

*<http://www.inspiremonkey.com/2010/07/nature-wonder>*

**Rebecca Schneider, Ph.D.  
Dept. Natural Resources, Cornell University**

DEPARTMENT OF  
ENVIRONMENTAL CONSERVATION[A-Z Translate](#)[Printer-friendly](#)[A-Z Subject Index](#)

Enter search words

[Search DEC](#)[Home](#) » [Lands and Waters](#) » Water Withdrawal, Conservation & Drought

## Water Resources Law

The Water Resources Law was updated In 2011 to further protect New York's waters, including the Great Lakes, by requiring a DEC permit for any type of water withdrawal system having the capacity to withdraw 100,000 gallons per day (gpd) or more of surface water or groundwater. Previously, this law applied only to public water supplies.

The law also requires statewide registration of existing agricultural withdrawals that are greater than 100,000 gpd (30 day average) and major basin water diversions of greater than 1,000,000 gpd. The law became effective on February 15, 2012 and final implementing [regulations](#) became effective on April 1, 2013. To see the law, click the link titled "New Water Resources Law" in the right hand margin of this page.

### The law covers the following areas:

- Non-Agricultural Water Withdrawal Reporting and Permitting
- Agricultural Water Withdrawal Reporting, Registration and Permitting
- Water Well Contractor Program
- Drought Information
- Water Conservation including a Water Conservation Manual and Certification Information For NYS Water Saving Plumbing Fixtures Law
- Interbasin Diversions and Registration

# Talk Outline

- *How this came about*
- *100,000 gals – a lot or a little?*
- *What is a safe amount?*
- *Regulations – what's required*

# Where this all started....



Great Lakes Commission calls for basin water resources management program

## Great Lakes water export scheme abandoned

**For Immediate Release: November 24, 1998**

ANN ARBOR, Mich.—A Sault Ste. Marie, Ontario, company has abandoned a controversial plan to export Great Lakes water to overseas markets. The Nova Group, Ltd., had received a Lake Superior water withdrawal permit from the Ontario Ministry of Environment in April 1998, with the objective of establishing an export industry serving Asian markets. The permit was canceled soon thereafter following an outcry from the Great Lakes Commission and other regional interests alarmed by the absence of consultation and the prospective environmental implications and legal precedent associated with the permit. The Nova Group appealed the cancellation and, prior to abandoning the appeal on Nov. 20, had been facing a Dec. 7 hearing before the Ontario Environmental Appeal Board.

The referral of this issue to the IJC was prompted by a permit, granted to an Ontario company by the Ontario Ministry of the Environment, for the annual export of 600 million litres of Lake Superior water to Asia until the year 2002. The company has since offered to surrender its permit.



## CANADA ASKS THE UNITED STATES TO AGREE TO A JOINT REFERRAL OF THE WATER EXPORT ISSUE TO THE INTERNATIONAL JOINT COMMISSION

Foreign Affairs Minister Lloyd Axworthy today asked the United States to agree to refer the issue of boundary water exports, including water taken from the Great Lakes, to the International Joint Commission (IJC). Under this reference, the IJC would be asked to make recommendations by October 1998 on the consumption, diversion and export of boundary waters.

"Boundary waters are a priceless resource belonging to the peoples of Canada and the United States. Our governments have a responsibility to manage this resource and ensure a safe and plentiful supply of clean water. I have written Secretary of State Madeleine Albright asking that she agree to bring this issue to the IJC," said Minister Axworthy.



# What's was (and is) at stake?

---

- **Maintaining regional control of Great Lakes' water resources**
- **Ensuring water is available for future use and economic growth**



*Michigan billboard 2001*



# Creation of the Great Lakes Compact

**Nov. 23, 1999** Canada places ban on bulk water removals from all Canada waters

Governor's Council assigns a committee to draft an agreement

**June 18, 2001** The Great Lakes Charter Annex – supplementary agreement is signed by all 8 governors and 2 premiers of Canada  
7 yrs later: Revisions and agreement goes through public comment.

**October 3, 2008** Signed into Law by U.S. Congress

## Great Lakes Compact



**Full title** Great Lakes-St. Lawrence River Basin Water Resources Compact

**Enacted by the** 110th United States Congress

**Effective** October 3, 2008

### Citations

**Public Law** 110-342 [\[1\]](#)

### Codification

### Legislative history

- **Introduced in the House and Senate as H.R. 6577<sup>[1]</sup> and S.J.Res 45<sup>[2]</sup> by Jim Oberstar and Carl Levin on July 23, 2008**
- **Passed the Senate on August 1, 2008 (unanimous consent)**
- **Passed the House of Representatives on September 23, 2008 (390 yea, 25 nay, 18 not voting)**
- **Signed into law by President George W. Bush on October 3, 2008**

### Major amendments

*Signed and entered into the 18<sup>th</sup> day of June 2001.*

  
George H. Ryan  
Governor of Illinois

  
John Engler  
Governor of Michigan

  
George E. Pataki  
Governor of New York

  
Frank O'Bannon  
Governor of Indiana

  
Jesse Ventura  
Governor of Minnesota

  
Bob Taft  
Governor of Ohio

  
Mike Harris  
Premier of Ontario

  
Bernard Landry  
Premier of Quebec

  
Tom Ridge  
Governor of Pennsylvania

  
Scott McCallum  
Governor of Wisconsin



# The Goal of the Compact

**Each state will manage the waters** (including tributaries, connecting channels, and ground-water) of its jurisdiction in such a way that **new or increased withdrawals** “**will result in no significant individual or cumulative adverse impacts to the quantity or quality of the Waters and Water Dependent Natural Resources and the applicable Source Watershed**”.



OVERVIEW

BOARD OF DIRECTORS

PROJECTS

NEWSLETTER

STAFF

CURRENT  
PROJECTS

Water Management ★ Great Lakes Restoration and Protection ★ Trade ★ Maritime ★ Aquatic Invasive Species

## Projects

### Resolution 1:

**Conduct an inventory of water resources per state  
and all withdrawals greater than 100,000 gals/day**



# Sources of NY's water

- 40 in average annual precipitation
  - 1,236 sq. miles of lakes, ponds, & reservoirs  
(as 8,300 lakes including the Finger Lakes)
  - 577 miles of Great Lakes shoreline
  - 52,337 miles of rivers and streams
  - Extensive groundwater resources
- 
- 3,750 sq. miles of freshwater wetlands
  - 1,530 sq. miles of estuaries, bays, & harbors  
(117.5 miles of Atlantic Ocean shoreline)

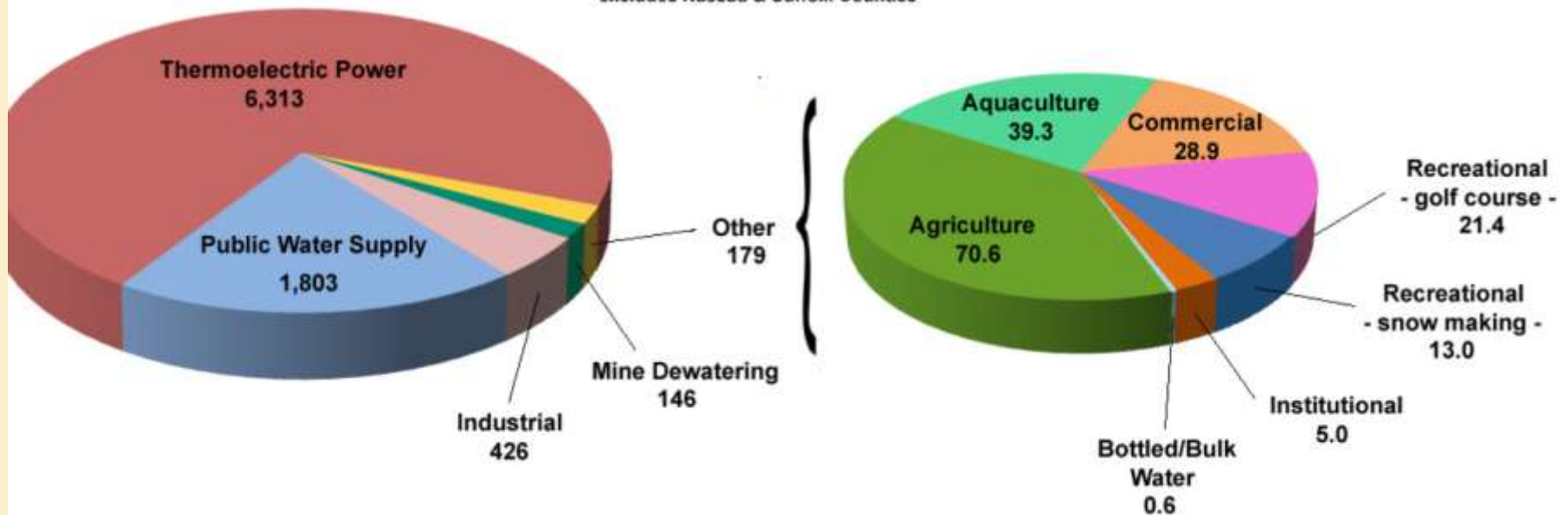


# Water Uses in NYS

## Total Water Use by Category in New York State\*, 2012

In millions of gallons per year

\*excludes Nassau & Suffolk Counties



# Surface Water Supply Sources for NYS

Source	Population
Lake Erie & Niagara River	930,000
Lake Ontario	486,000
Hudson River*	122,000
Finger Lakes	115,000
Mohawk River	94,000
Susquehanna River	68,000
Chemung River	65,000
Other major rivers	53,000
Total	1,933,000

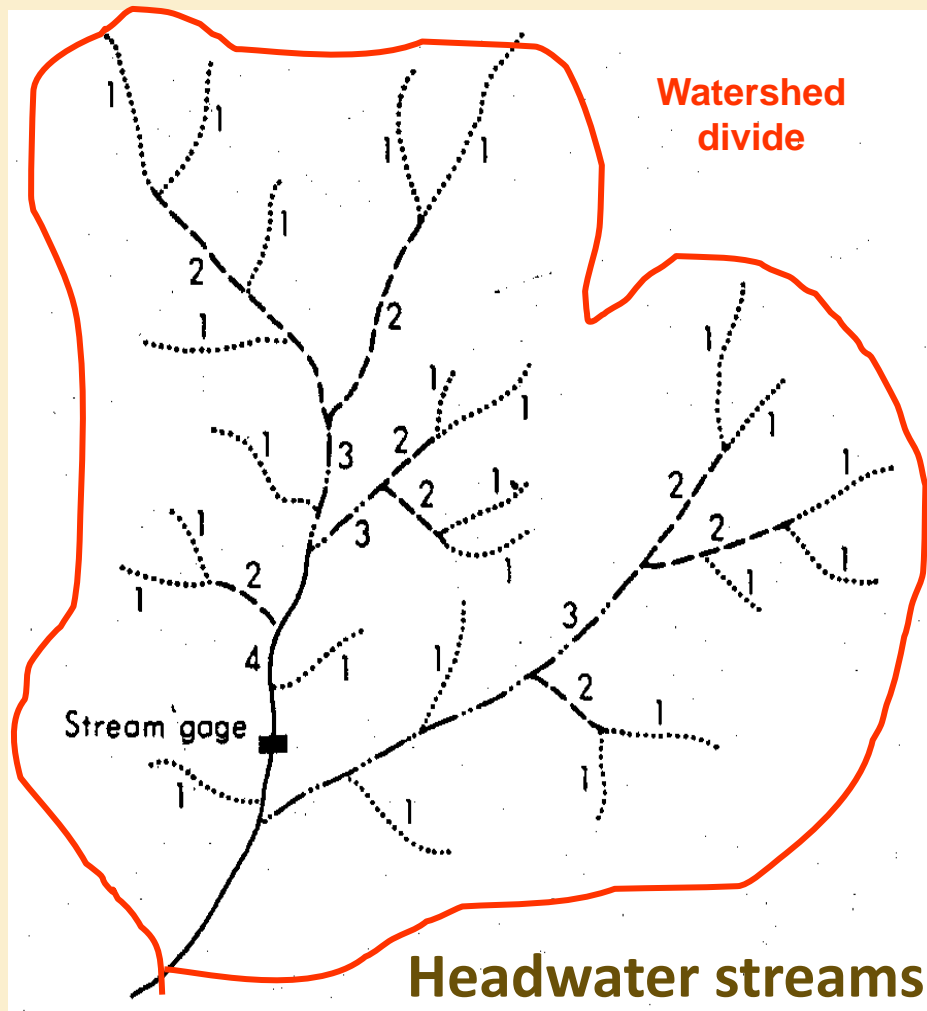
# Other Water Supply Sources for NYS

Category		Population Served
1	Withdrawal from large water bodies	2,000,000
2	New York City system	9,300,000
3	Other reservoir systems	1,300,000
4	Run-of-the-river on small drainage	62,000
5	Long Island groundwater	3,200,000
6	Other primary aquifers	650,000
7	Homeowner well water	1,900,000
8	Other small water supply systems (groundwater/surface water)	600,000
Total		19,012,000



# A lot or a little?

## Stream Channel Network



# A lot or a little? Stream size matters

**Headwaters**

< 50 sq mile basins

**Small streams**

50-200 sq mile basins

**Major tributary streams**

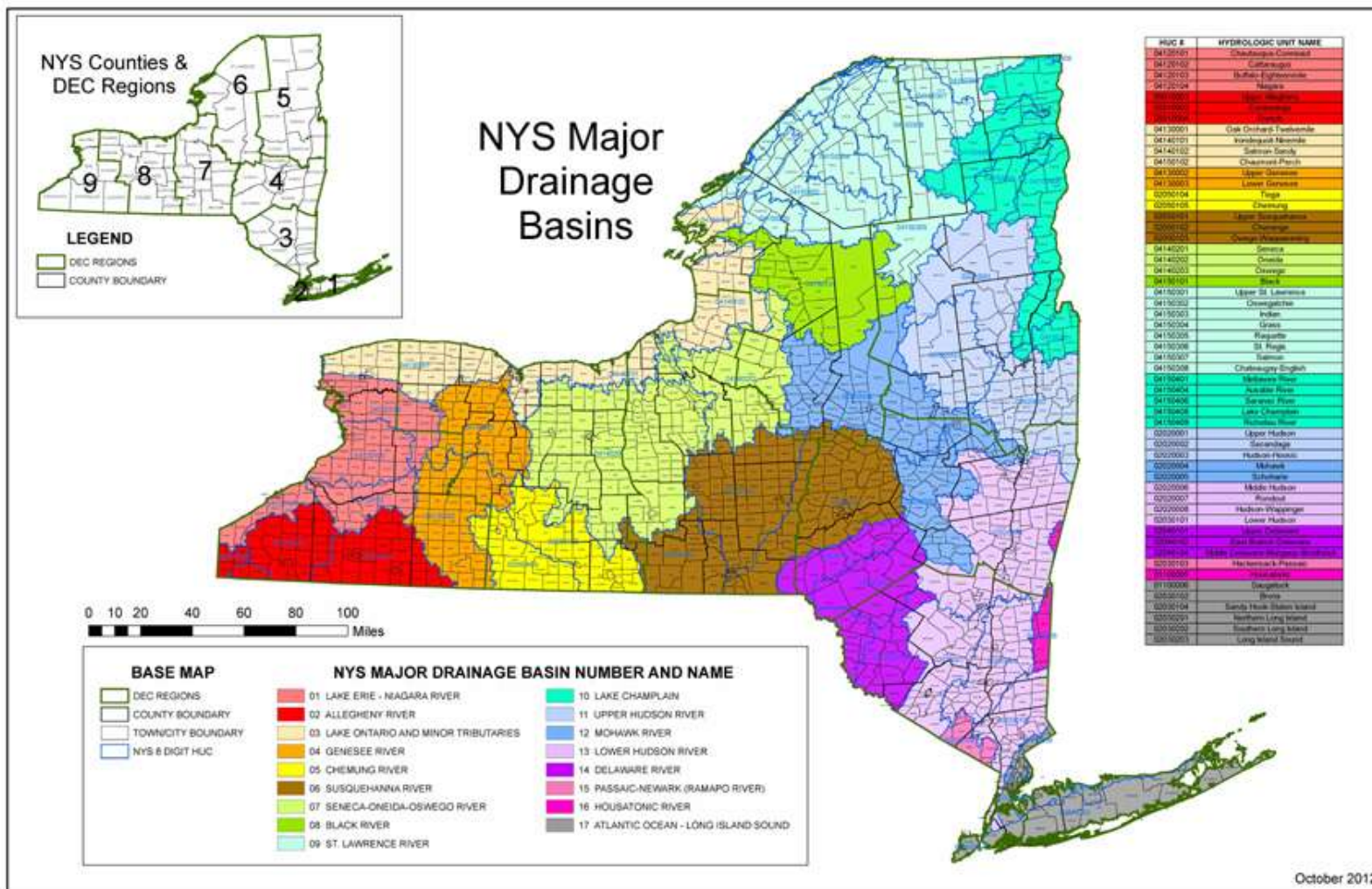
200 – 1000 sq mile basins

**Large rivers**

> 1000 sq mile basins



# NY's River Basins

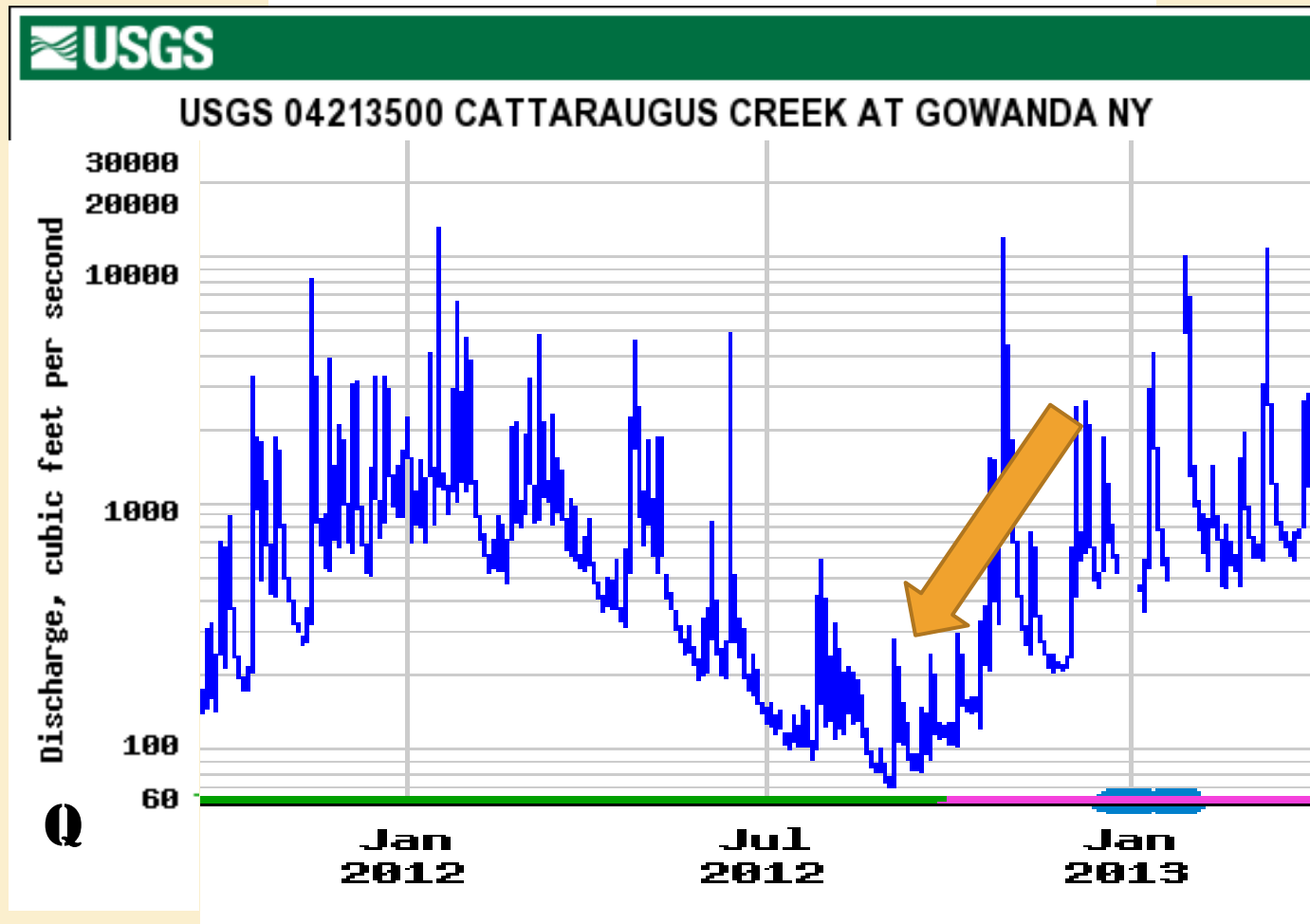




# A lot or a little? Season matters

## Dynamics of Stream Flow - Hydrographs

100,000 gal/day = 0.2 cfs



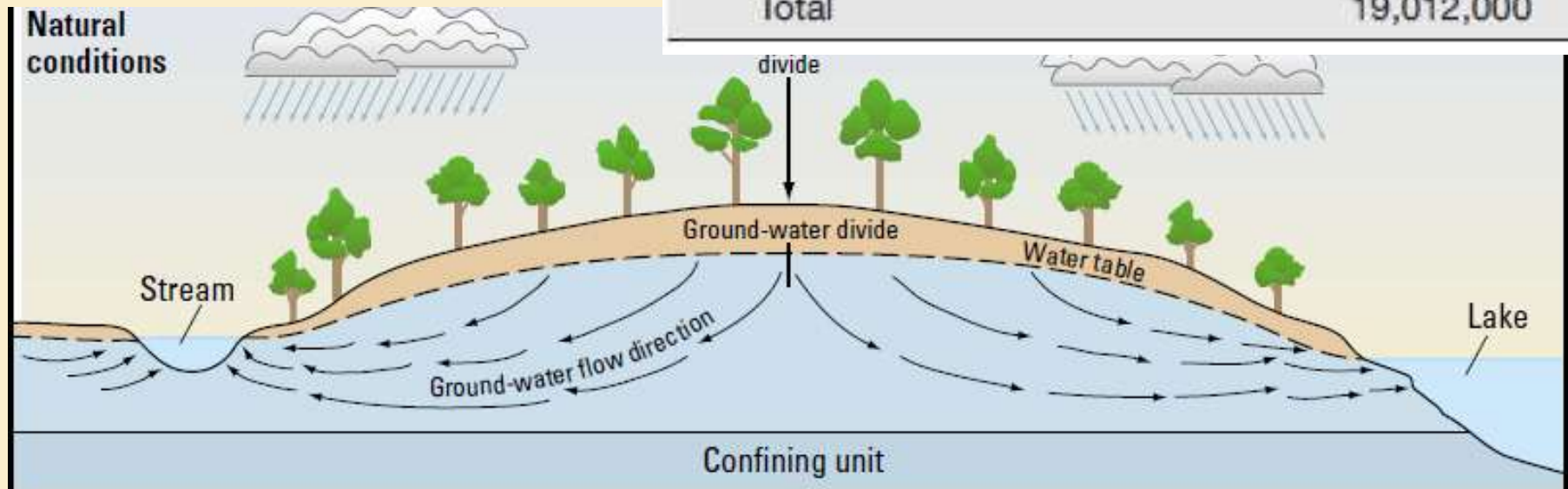
*Major trib - 435 sq miles*

# Typical Stream Flows

Stream / Basin Size	Example	Average Flow cfs	Minimum cfs	Maximum cfs
<b>Headwaters</b>		15	0.5	180
	Massapequa Crk 38.6 sq mi	40	0.83	250
<b>Small streams</b> 50-200 sq. mi	Salmon River (63.3 sq mi)	100	15	2300
<b>Major Tribs</b> 200–1000 Sq. mi	Tonawanda Creek (171 sq. miles)	300	20	5000
	Cattaraugus Creek (435 sq. mi)	1000	150	15000
<b>Large Rivers</b>	Hudson R (Green Is) 8,000 sq mi	20,000	2000	90,000

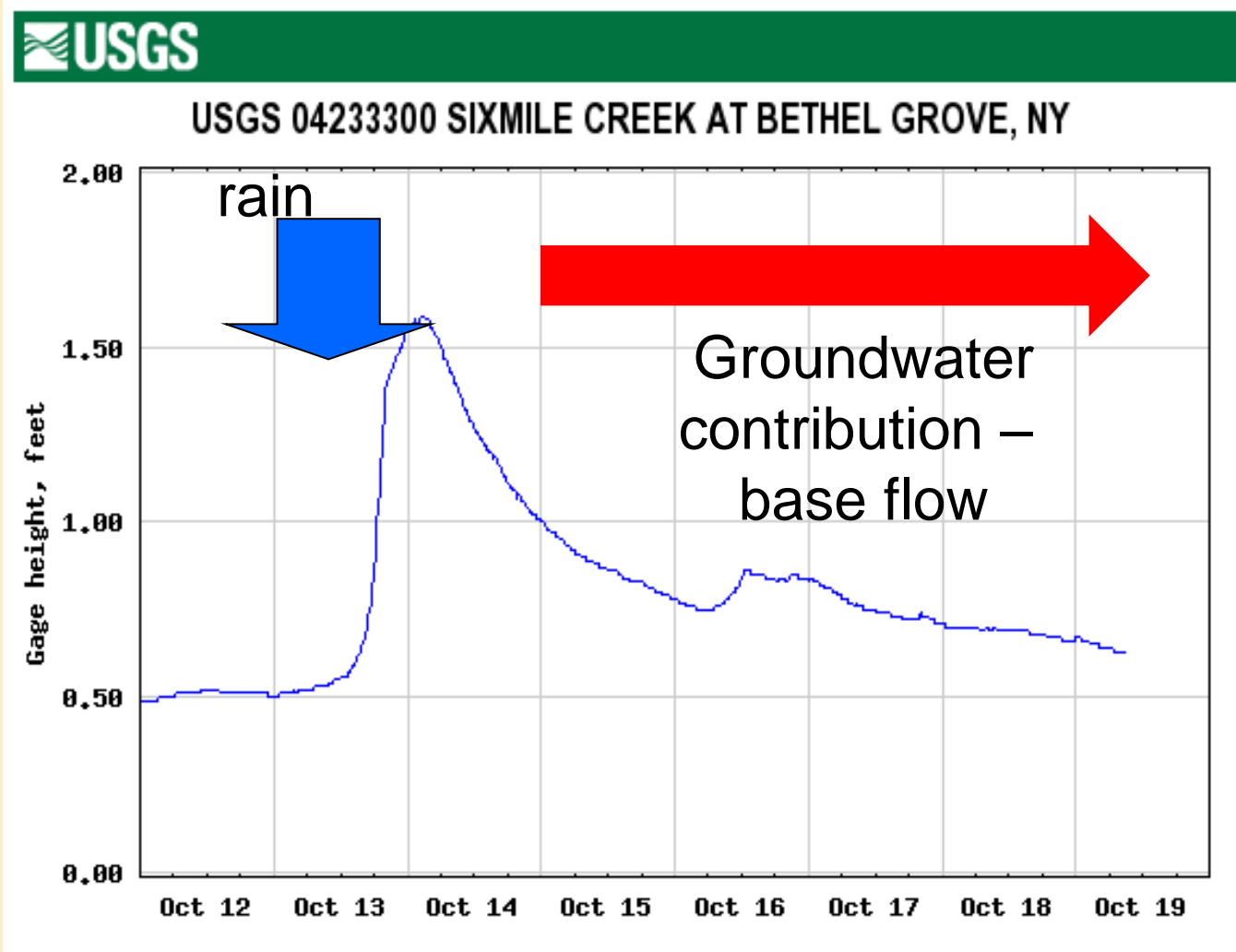
# Groundwater Sources

Category		Population Served
1	Withdrawal from large water bodies	2,000,000
2	New York City system	9,300,000
3	Other reservoir systems	1,300,000
4	Run-of-the-river on small drainage	62,000
5	Long Island groundwater	3,200,000
6	Other primary aquifers	650,000
7	Homeowner well water	1,900,000
8	Other small water supply systems (groundwater/surface water)	600,000
Total		19,012,000





# Groundwater – Stream Linkages



# Great Lakes Compact – other Goals

## **RESOLUTION #5—ADOPTION OF BASIN-WIDE CONSERVATION AND EFFICIENCY OBJECTIVES**

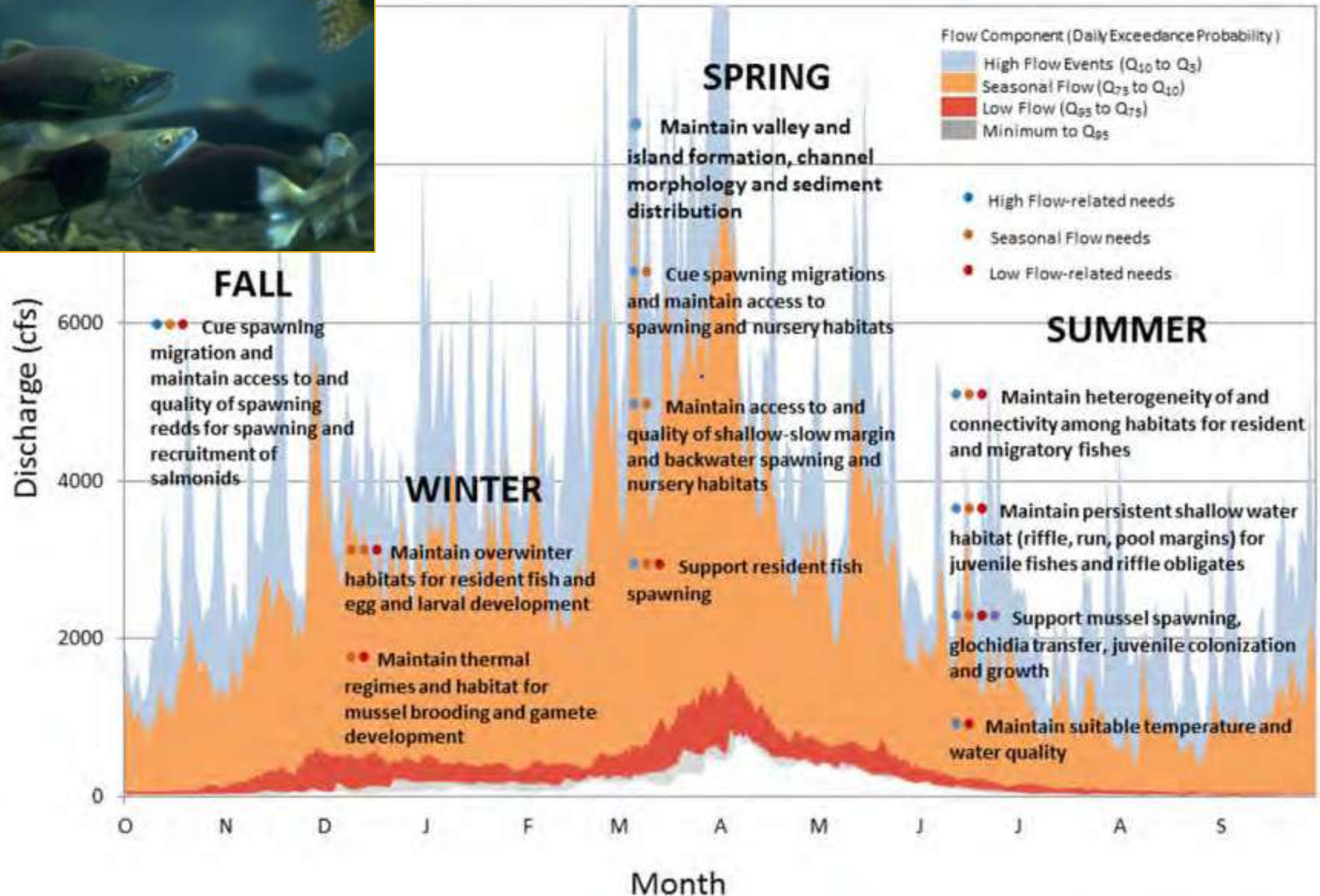
WHEREAS, Section 4.2.1 of the Great Lakes-St. Lawrence River Basin Water Resources Compact (Compact) states that:

“The Council commits to identify, in cooperation with the Provinces, Basin-wide Water conservation and efficiency objectives to assist the Parties in developing their Water conservation and efficiency program. These objectives are based on the goals of:

- a. Ensuring improvement of the Waters and Water Dependent Natural Resources;
- b. Protecting and restoring the hydrologic and ecosystem integrity of the Basin;
- c. Retaining the quantity of surface water and groundwater in the Basin;
- d. Ensuring sustainable use of Waters of the Basin; and,
- e. Promoting the efficiency of use and reducing losses and waste of Water.”; and,

WHEREAS, on December 13, 2005, the Governors of the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio and Wisconsin, the Commonwealth of Pennsylvania, and the Premiers of Ontario and Québec signed the *Great Lakes—St. Lawrence River Basin Sustainable Water Resources Agreement* (“Agreement”); and,

# Flow Components and Needs



# “Safe” Stream Withdrawals

**WD** = monthly withdrawal limits

**PB** = passby flows = min flows immediately downstream of intake

**Q** = flow (cfs)



Flow Recommendations for the  
Tributaries of the Great Lakes in  
New York and Pennsylvania

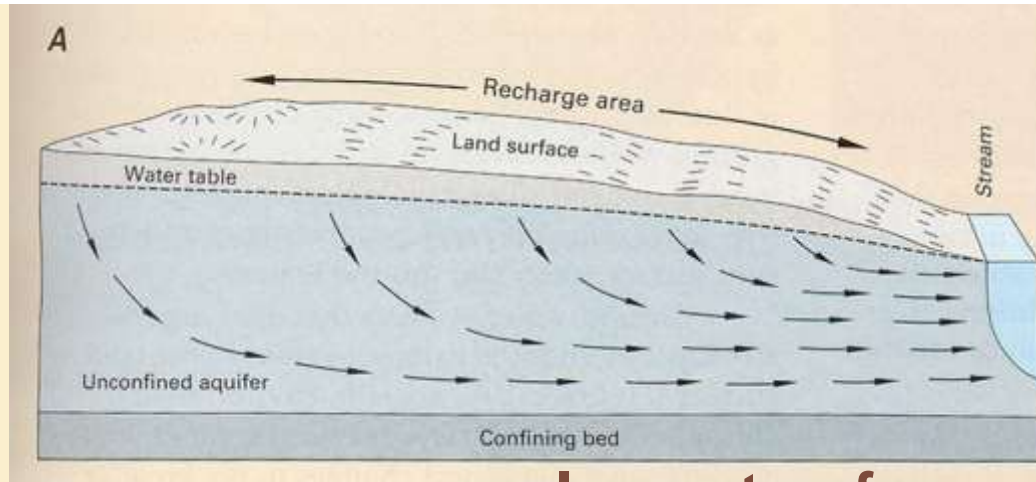
*A report submitted to  
New York State Department of Environmental Conservation by  
The Nature Conservancy*

September, 2013

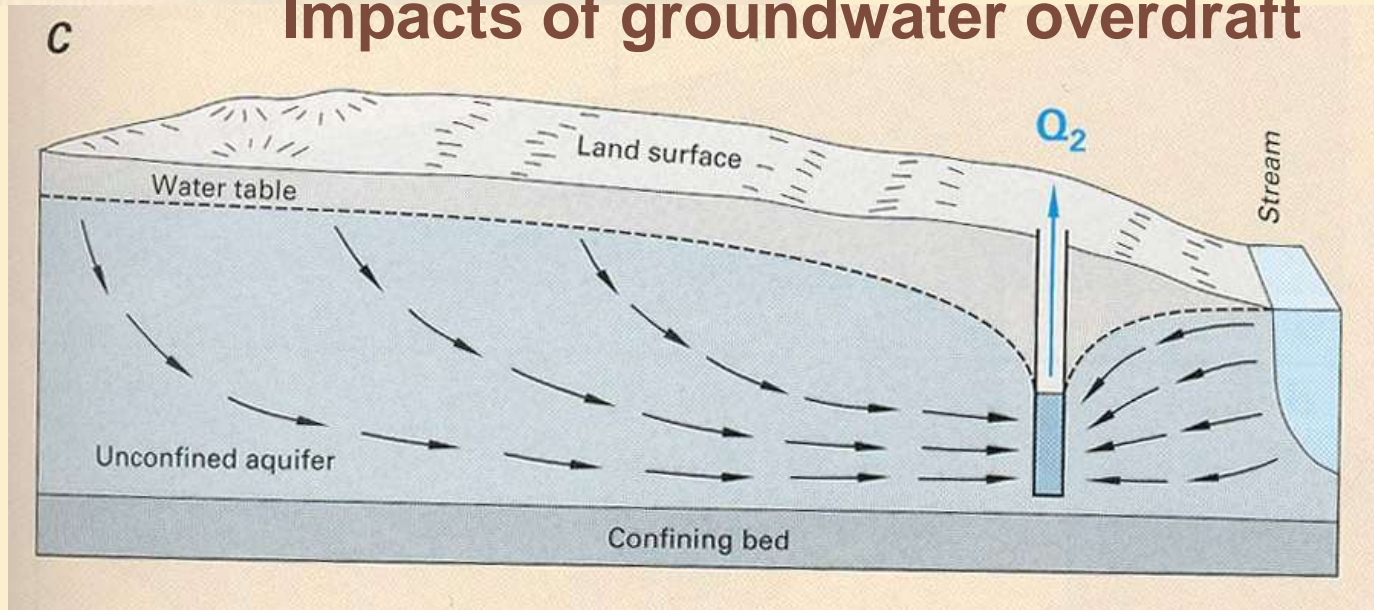
Stream Type	Policy Tool	Summer/Fall (July-October)	Winter/Spring (November-June)
Class 1 Streams: Headwaters and Creeks	WD	10% of $Q_{50}$	10% of $Q_{50}$
	PB	$Q_{50}$	$Q_{70}$
Class 2a Streams: Small Rivers	WD	10% of $Q_{75}$	10% of $Q_{75}$
	PB	$Q_{70}$	$Q_{80}$
Class 2b Streams: Major Tributaries	WD	15% of $Q_{75}$	15% of $Q_{75}$
	PB	$Q_{70}$	$Q_{80}$
Class 3 Streams: Large Rivers	WD	20% of $Q_{75}$	20% of $Q_{75}$
	PB	$Q_{85}$	$Q_{90}$



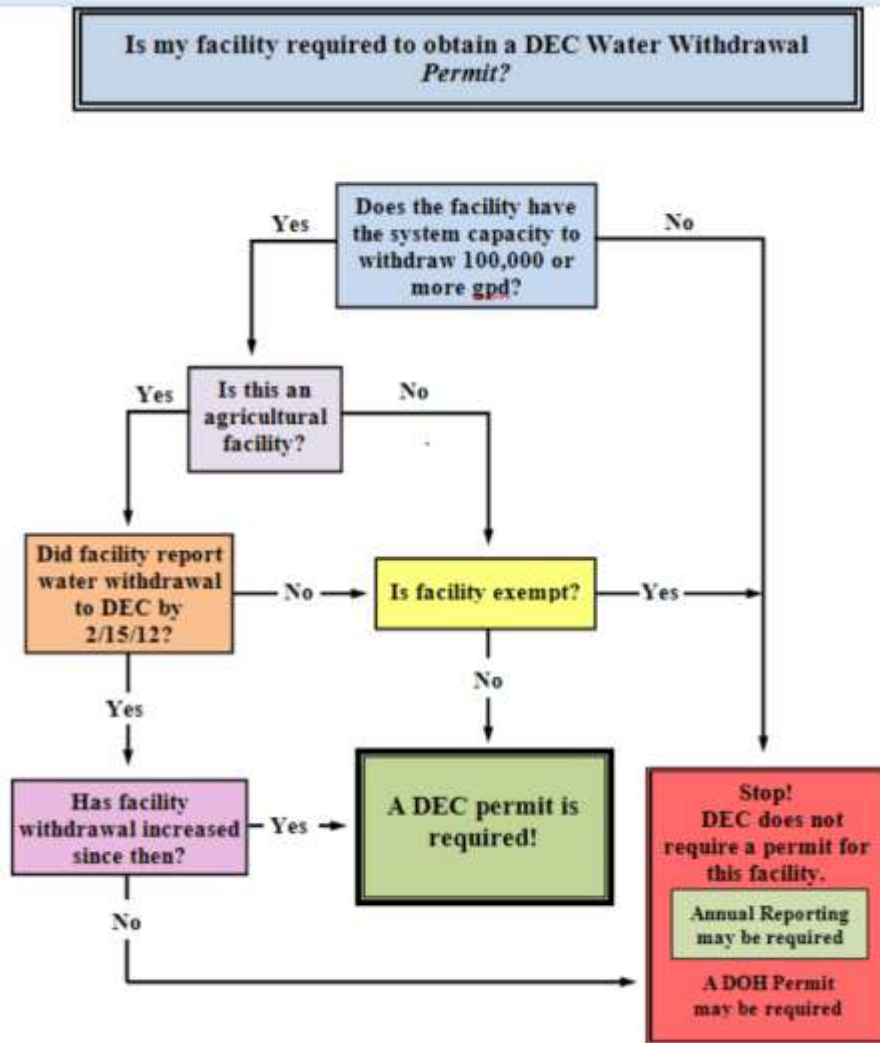
# What are safe levels of groundwater withdrawal?



## Impacts of groundwater overdraft



# New Regulations - Permits



## Registration of Existing Water Withdrawals

As per §601.17 (Registration of agricultural facilities), registration is required if:

- a water withdrawal system was being operated for agricultural purposes on February 15, 2012, with a cumulative withdrawal for a single parcel or proximate parcels equal to or in excess of an average of 100,000 gallons per day ("threshold volume") in any thirty day consecutive period (3 million gallons during a 30 day period); **AND**
- prior to February 15, 2012 water usage was registered or reported to NYSDEC. (If not already registered or reported by that date, then the facility must acquire a permit.)

### Exempt from Permit

Water withdrawals for agricultural purposes that were registered prior to February 15, 2012 or their annual water usage reported to DEC prior to February 15, 2012 are exempt from permitting requirements. However, these withdrawals remain subject to annual reporting and registration requirements.

### Permit required

A water withdrawal permit is required for an agricultural facility meeting the threshold volume if any of the following conditions are met:

- A facility not meeting the above exemption, or
- A facility that was previously below the threshold volume and exempt from reporting and permitting requirements but increases its water withdrawal to above the threshold volume, or
- An already permitted facility that increases its withdrawal.





# New Regulations - Reporting



New York State Department of Environmental Conservation  
Division of Water, Bureau of Water Resources Management  
625 Broadway, Albany, NY 12233-3508

Nov 2013

## Water Withdrawal Reporting Form

Due by March 31<sup>st</sup> each year

Prior to filling out this form, please read the instructions on the last page

*This form not for Agricultural Facilities*

### Section 1

Facility Name		Facility Street Address			Reporting Year
City	Zip	Town	County		<b>Water Withdrawal Category (Check one)</b> Agricultural Bottled / Bulk Water Commercial Environmental Industrial Institutional Mine Dewatering Oil / Gas Production Power Production: Fossil Fuel Nuclear Other Pwr: Public Water Supply Recreation: Golf Course Snow Making Other Rec: Other:
Contact Name	Email		Telephone		
Source Name	Source Type	Well Depth	Max Rate	Units	
Source Name	Source Type	Well Depth	Max Rate	Units	
Source Name	Source Type	Well Depth	Max Rate	Units	
Source Name	Source Type	Well Depth	Max Rate	Units	
Source Name	Source Type	Well Depth	Max Rate	Units	
Source Name	Source Type	Well Depth	Max Rate	Units	
Average Day Withdrawal:		Maximum Day Withdrawal:		Permitted Withdrawal or Max System Capacity	
Submitted by:		Title:	Date:		

# New Regulations - Reporting

## Section 2

Calculation Method: M = Metered readings W = Flow through a weir or flume P = Flow through a pipe or pump run times E = Estimated  
C = Pump curve calculation

Units: <i>Must be in gallons per month</i>	January	February	March	April	May	June
Withdrawn						
Transferred / Imported						
Consumed						
Returned						
Diversions In / Out, if any						
Units: <i>Must be in gallons per month</i>	July	August	September	October	November	December
Withdrawn						
Transferred / Imported						
Consumed						
Returned						
Diversions In / Out, if any						

# New Regulations – and more....

## Water conservation program:

**A completed form or detailed plan, that demonstrates the applicant's water conservation and efficiency measures that are environmentally sound and economically feasible and that minimize inefficiencies and water losses.**

## Water Conservation Requirements

All applications for water withdrawal permits require a Water Conservation Program that demonstrates an applicant's water conservation and efficiency measures. These must be environmentally sound, economically feasible and minimize inefficiencies and water losses. Such measures must include but are not limited to:

- source and customer metering;
- frequent system water auditing;
- system leak detection and repair;
- recycling and reuse, and;
- reductions during drought.

# Will it work?

- How will this information be integrated to assess cumulative withdrawals on each river system , each lake, or aquifer
- How will we define “safe” .... when is too much?





# Why it is so important

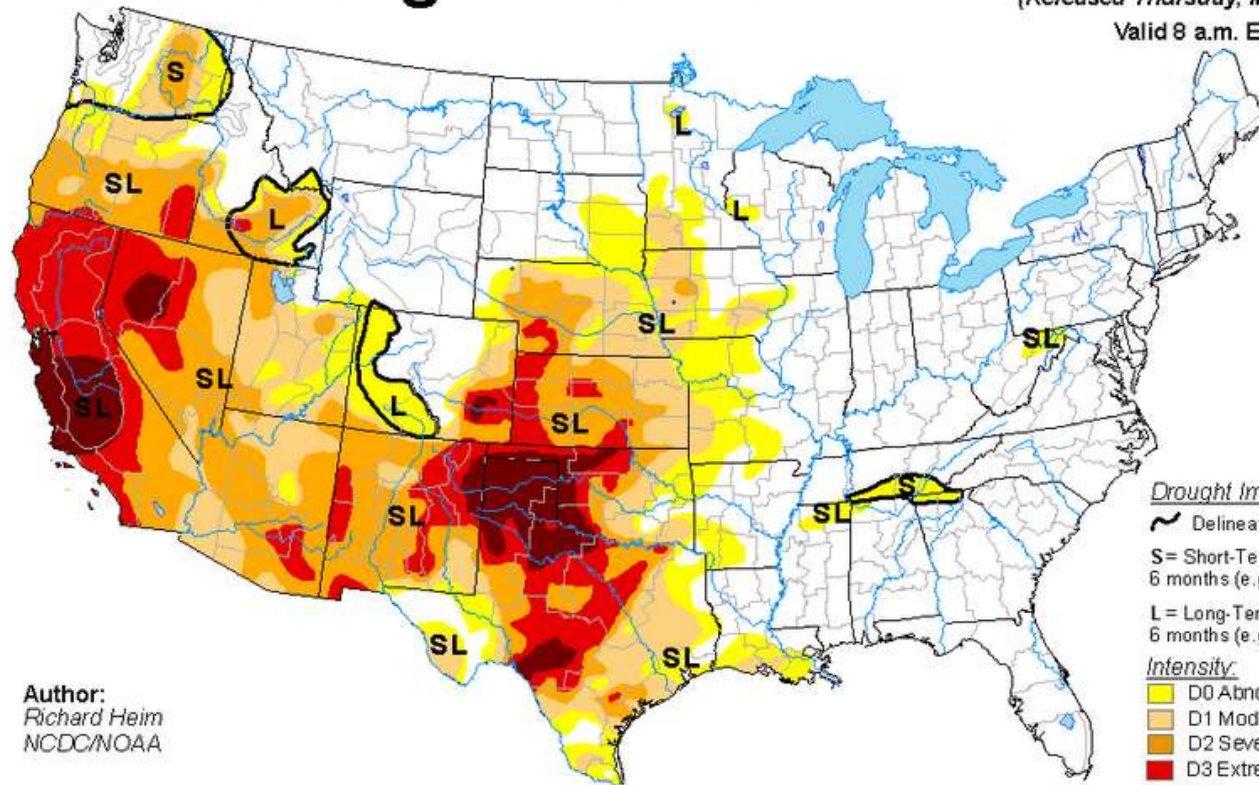
## California's Drought Could Be the Worst in 500 Years

*And why it's too late for the rain.*



## U.S. Drought Monitor

**April 29, 2014**  
(Released Thursday, May 1, 2014)  
Valid 8 a.m. EDT



Author:  
Richard Heim  
NCDC/NOAA

### Drought Impact Types:

- ~ Delineates dominant impacts
- S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
- L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

### Intensity:

- Yellow: D0 Abnormally Dry
- Orange: D1 Moderate Drought
- Dark Orange: D2 Severe Drought
- Red: D3 Extreme Drought
- Dark Red: D4 Exceptional Drought