Concord Basin Permit Meeting

May 28, 2015
Hudson Fire Department

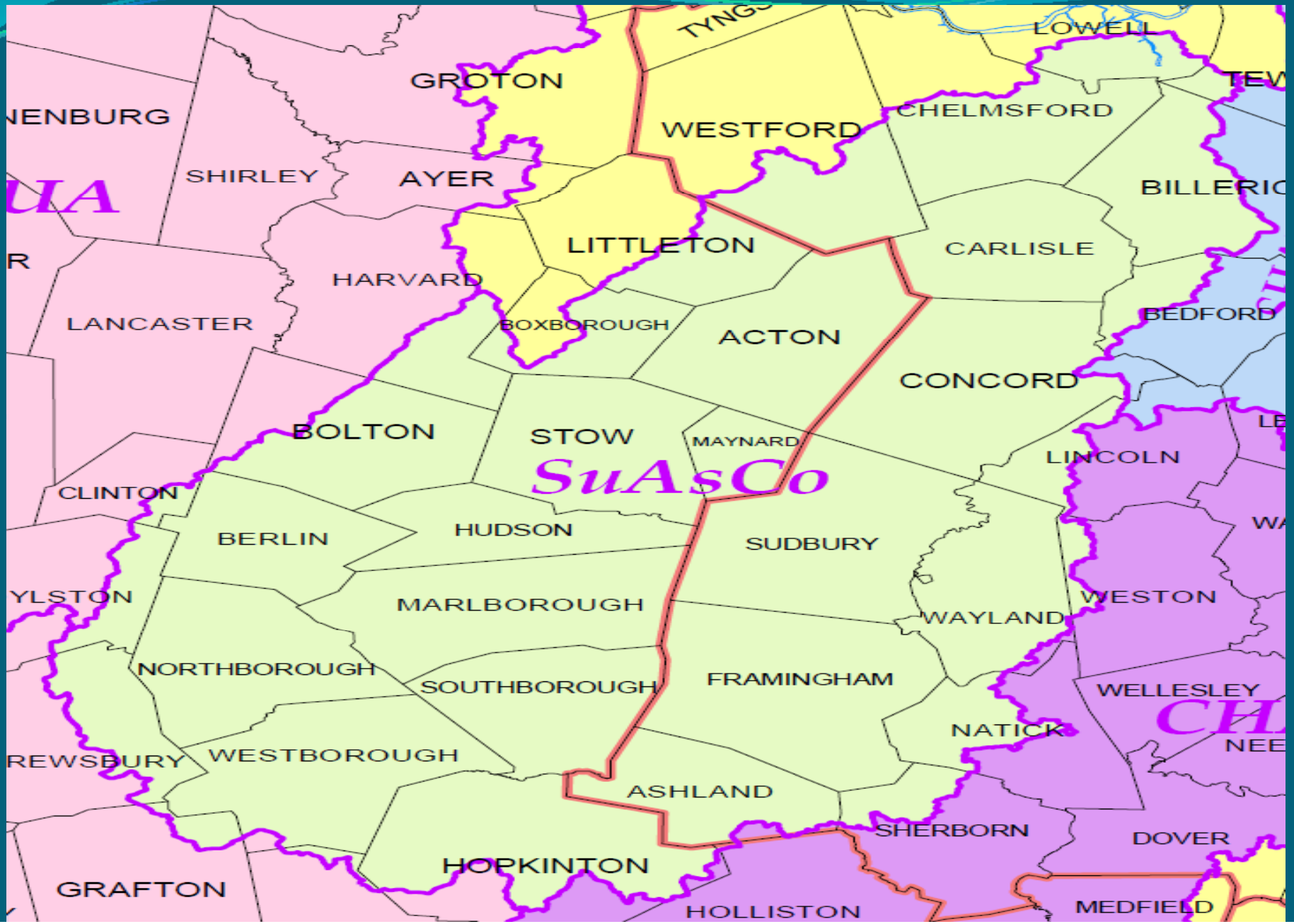
MA Executive Office of Energy and Environmental Affairs
Department of Conservation and Recreation
Department of Environmental Protection
Department of Fish and Game

Concord Meeting

Agenda

- Introductions
- WMA Permit Renewal Process
- Concord Basin Specifics
- Questions & Answers
- Informal Agency Consultations

Concord Basin



Meeting Purpose- Part One

- Explain the WMA permit renewal process, including:
  - WMA Purpose
  - Permit Review Schedule
  - Water Needs Forecasts
  - Safe Yield
  - Permit Conditions
  - New Permit Requirements

Meeting Purpose- Part Two

- Review Concord data and requirements, including:
  - Water Use
  - Baselines
  - Water Use Restrictions
  - Coldwater Fisheries Resources (CFRs) and Requirements

Water Management Act Purpose

Chapter 21G, Section 7 Reasonable protection of …

- Public drinking water supplies
- Navigation
- Hydropower resources
- Fish and wildlife
- Water quality
- Water-based recreation
- Wastewater treatment capacity
- Agriculture
- Waste assimilation capacity
- Reasonable conservation practices consistent with efficient utilization of water
- Groundwater recharge areas
- Flood plains
- Wetland habitat
- Reasonable economic development and creation of jobs

Concord Permit Renewal Schedule

Activity	Notes
Outreach meeting	
Water Needs Forecast	
Consultation meetings	On going, as necessary
Renewal Application Filing Period	June 30 – Aug. 31, 2015
MassDEP issues Order to Compete (OTC)	
Applicant prepares response to OTC	
OTC response due back	
MassDEP reviews	Mtgs. as necessary
Draft permit and public comment period	
Issue final permits*	

* Permits may be appealed for up to 21 days after permit issuance. Permits under appeal are not considered final permits.

Safe Yield

55% of Annual Drought Basin Yield + Reservoir Storage

- New methodology* determines maximum withdrawal volumes on annual basis and major basin scale.

*For more detailed description, see the Sustainable Water Management Initiative Framework Summary (November 28, 2012)

Basin	Safe Yield	Total Annual Authorized Withdrawals*	Total Annualized Registered Volume *	2013 Reported Use *
Concord	87.4 mgd	36.27 mgd	28.62 mgd	23.5 mgd

* Withdrawal volume calculated based on 365 days

Water Needs Forecasts (WNF)

- Applications for WMA Permits require a forecast of water needs for the permit term
- DCR develops forecast
- WRC Method:
  - Population and Employment forecasts
  - 65/10 and Current Trends scenarios
  - + 5% Buffer
  - At least 3 years of reliable data
  - Temporary allocation where necessary

- URL: www.mass.gov/eea/wnf-method

Steps in Developing a Water Needs Forecast

- DCR compiles and analyzes data
- Public Notices: *Environmental Monitor*; status report to WRC
- DCR develops draft forecast; discussions with water supplier
- Basin-wide public meeting (this meeting)
- PWS includes forecast in WMA permit application

General Timeframe: 2 months-
All complete in this basin

Data from Water Supplier

1. Water-use data based on actual metering for 3 to 5 years (from ASRs):
   - Residential
   - Industrial, Commercial, Municipal (Nonresidential)
   - Treatment plant losses (if any)
   - UAW
2. Population served by water system (including out of town and seasonal)
3. Anticipated significant changes in water use (large projects not captured in projections)

Data Obtained by DCR

Data	Sources
Current Town-wide Population	U.S. Census, Planning Office
Population Projections	Regional Planning Agency
Current Employment	Regional Planning Agency
Employment Projections	Regional Planning Agency

Permit Renewal Volumes

You can renew only as much as you currently have

- Existing Allocation vs Requested Volume
  - Existing Allocation = Your registration + permit = 2.0 mgd
  - DCR Projection = 2.30 mgd
- Up to 2.0 mgd can be done through the Permit Renewal Application
- Additional 0.3 mgd requires a new Permit Application (BRPWM03)
- Permit Renewal and the new Permit can be done simultaneously

  or
- New Permit can be done in the future (but before water is needed)

WMA Permit Conditions

1. Efficiency Requirements
   - 65 residential gallons per capita day (RGPCD)
   - 10% unaccounted-for-water (UAW)
   - BMPs (leak detection & repair, metering, pricing, public education etc.)
2. Seasonal limits on nonessential outdoor water use

Concord

Nonessential Outdoor Water Use Restrictions

Non-Essential: Uses not required for health or safety reasons, by regulation, for production of food or fiber, for maintenance of livestock, or to meet the core function of a business

RGPCD for prior year	CALENDAR		STREAMFLOW		
	May 1 to Sept 30	7 day Low-Flow Trigger	Flow above ABF	Flow below ABF	7 day Low-Flow Trigger
< 65 →	7 days *	1 day *	7 days	7 days*	1 day*
>65 →	2 days *	1 day*	7 days	2 days*	1 day*

* No watering 9 am to 5 pm on any day

ABF= Aquatic Base Flow
7 Day Low Flow calculated from period of record flows from a local USGS stream gage

Surface water PWSs with a Summer Management Plan with environmental considerations approved by MassDEP may vary from above requirements

Golf Standard Conditions

All permitted golf courses will be required to:

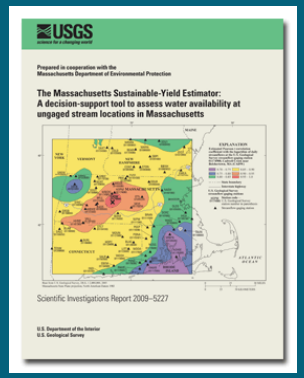
- have a conservation program that includes
  - metering,
  - irrigation system maintenance,
  - turf management, and
  - education;
- limit nonessential irrigation during drought;
- optimize withdrawals to protect cold water fisheries; and
- minimize impacts if the golf course is in a groundwater depleted subbasin.

New or expanding golf courses may also be required to:

- mitigate irrigation impacts; and
- show that there is no alternative source that is less environmentally harmful.

Science and Policy Informing WMA Permit Requirements

- USGS Studies: August withdrawals and impervious cover have significant impact on fluvial fish



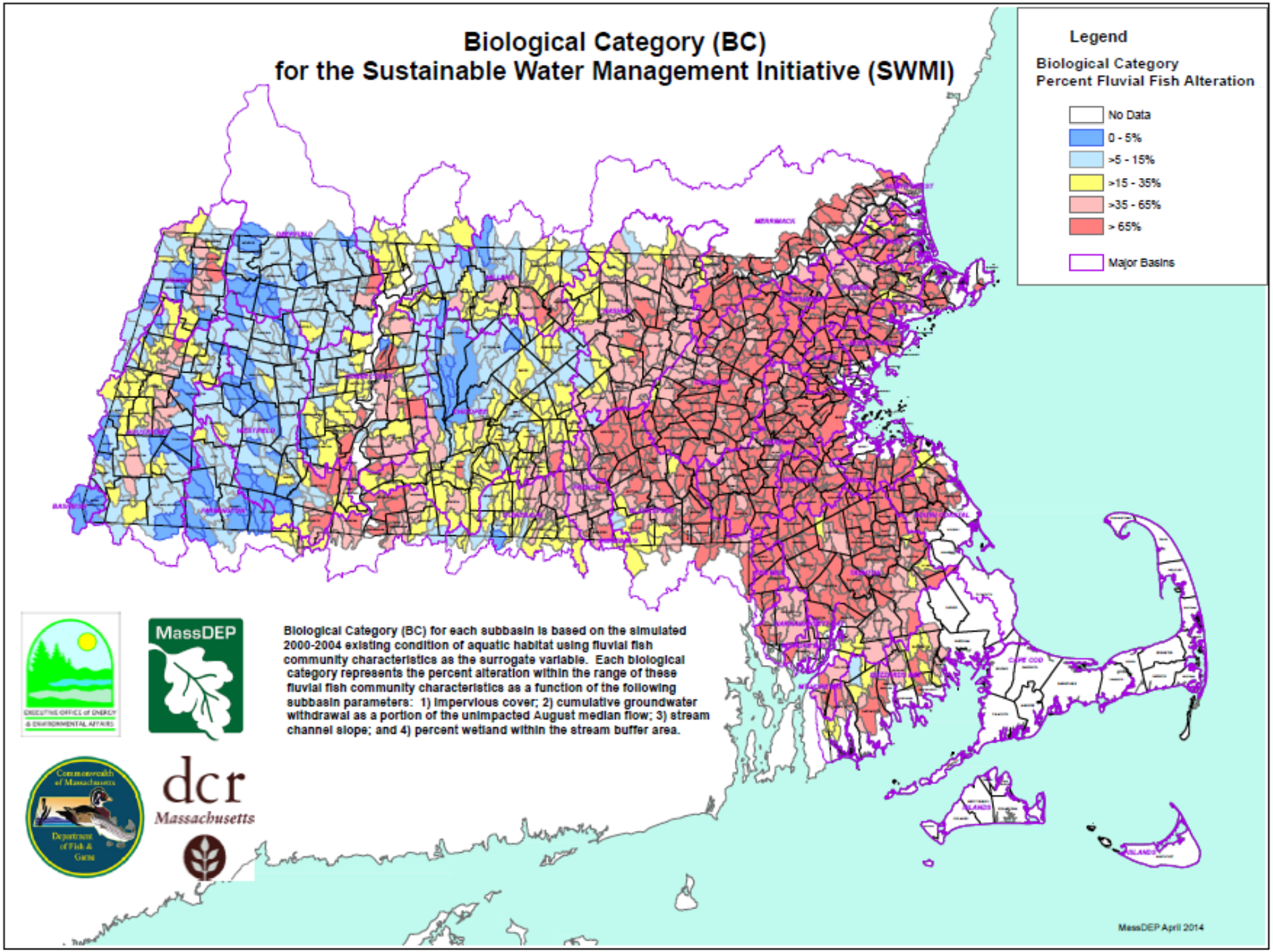
SYE

MWI

Fish and Habitat

- SWMI Advisory and Technical Committees helped us develop policy from science
- Five Biological and Groundwater Categories (1=least impact, 5 = most impact)
  - Categories use fluvial fish as surrogate for healthy aquatic habitat,
  - Impervious cover and August groundwater withdrawals used to represent impacts
- Streamflow Criteria mark the boundaries between categories (310 CMR 36.14)

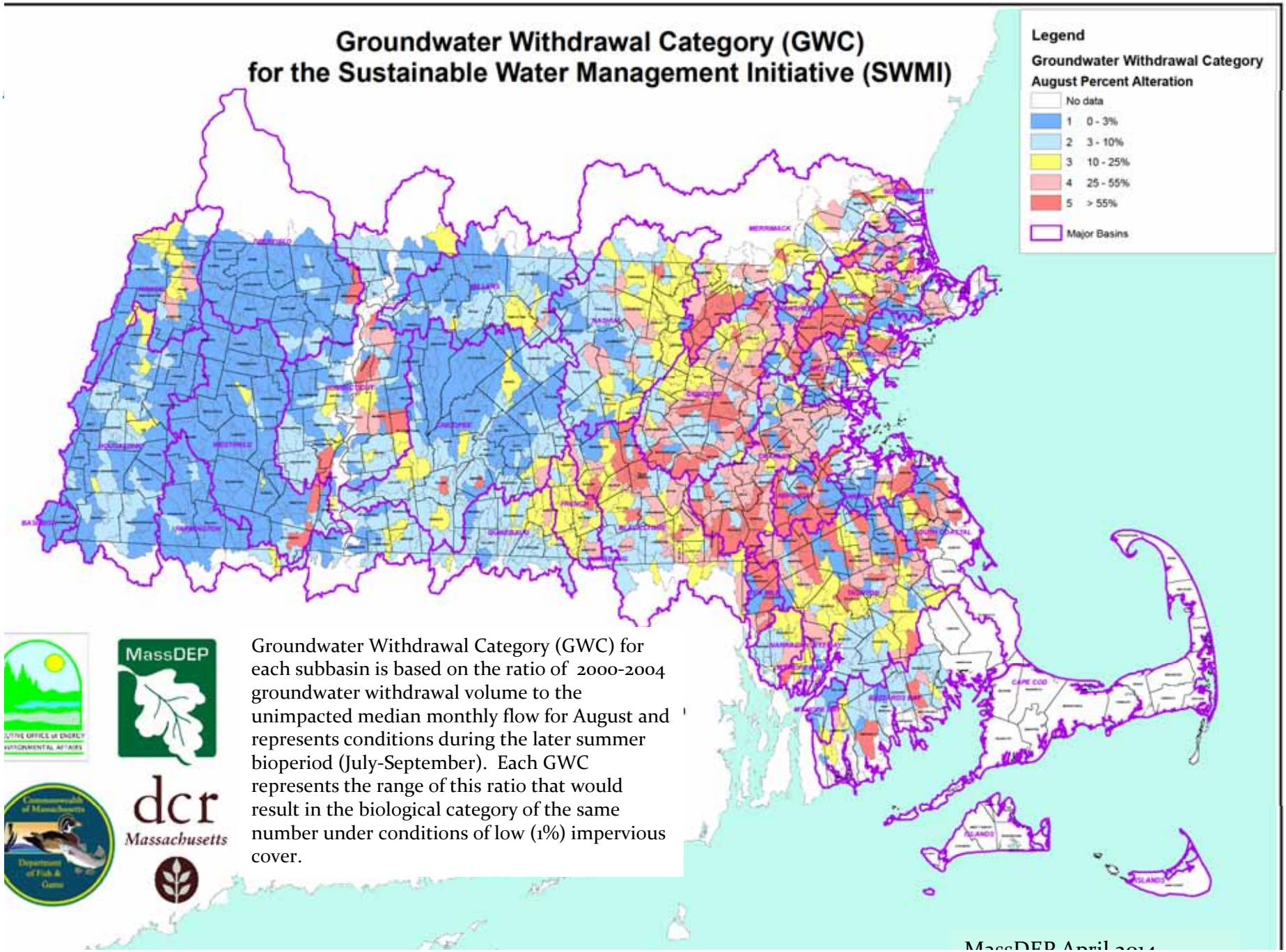
Biological Category (BC)
for the Sustainable Water Management Initiative (SWMI)



Biological Category (BC) for each subbasin is based on the simulated 2000-2004 existing condition of aquatic habitat using fluvial fish community characteristics as the surrogate variable. Each biological category represents the percent alteration within the range of these fluvial fish community characteristics as a function of the following subbasin parameters: 1) impervious cover; 2) cumulative groundwater withdrawal as a portion of the unimpacted August median flow; 3) stream channel slope; and 4) percent wetland within the stream buffer area.

MassDEP April 2014

Groundwater Withdrawal Category (GWC) for the Sustainable Water Management Initiative (SWMI)



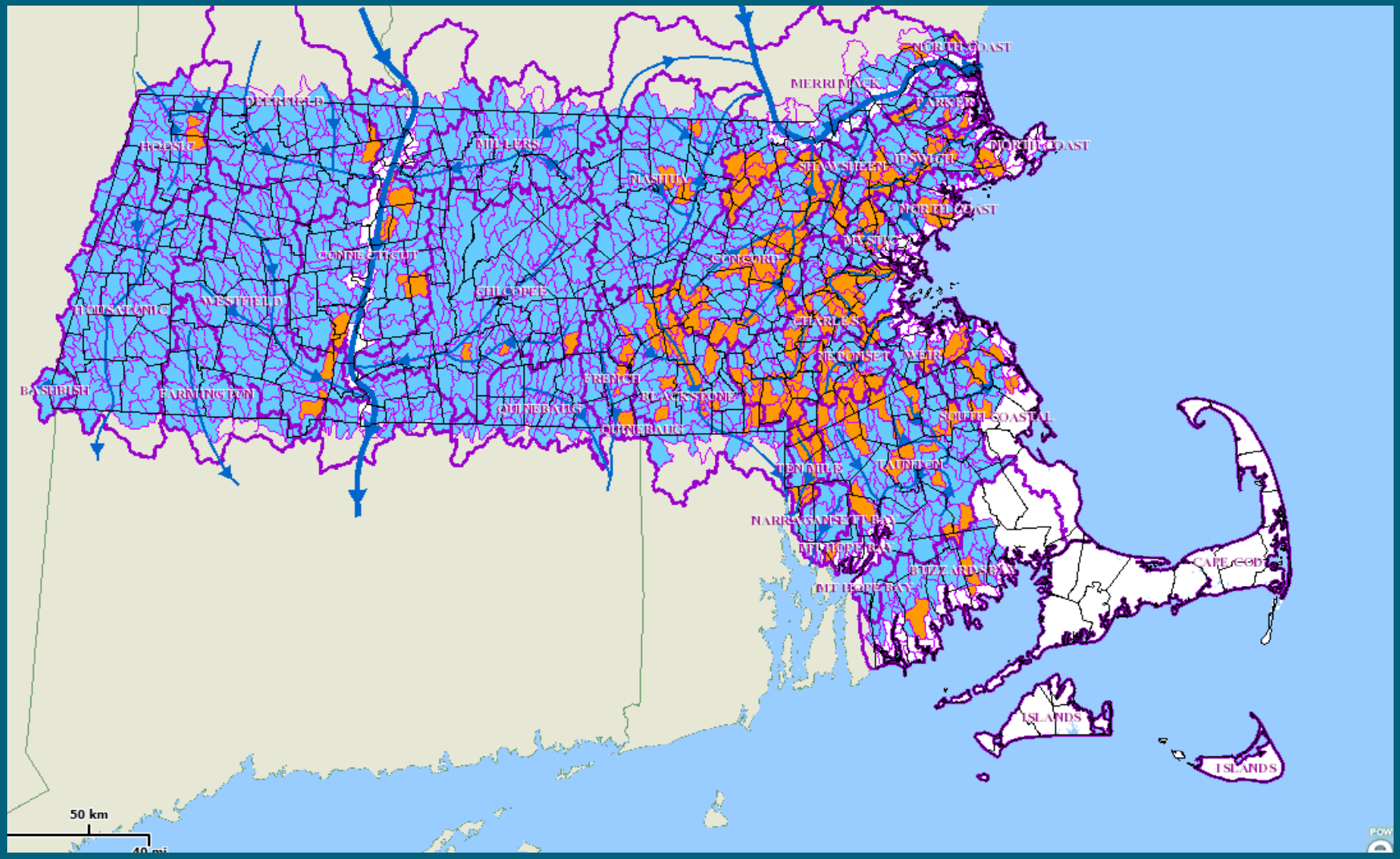
Groundwater Withdrawal Category (GWC) for each subbasin is based on the ratio of 2000-2004 groundwater withdrawal volume to the unimpacted median monthly flow for August and represents conditions during the later summer bioperiod (July-September). Each GWC represents the range of this ratio that would result in the biological category of the same number under conditions of low (1%) impervious cover.

MassDEP

dcr
Massachusetts

MassDEP April 2014

August Net Depletion



New Permit* Requirements

- CFR Consult for withdrawals in subbasins with Coldwater Fishery Resources (CFRs)
- Minimization for groundwater withdrawals in "≥25% August Net Groundwater Depleted" Subbasins
- Mitigation commensurate with impact, for requests above baseline, in consultation with agencies
- Show no feasible alternative for requests that change a category

*Those with only registrations are not subject to these requirements

Coldwater Fisheries Resource (CFR) Consult

- Basin meeting serves as the preliminary consult
- Goal: Reduce impacts to CFRs through optimization
- Optimization guidance will be provided

Minimization

Required* in subbasins that are August net groundwater depleted (NGD) by 25% or more according to MA Water Indicator Study data.

(NGD= *Aug unaffected flow – Aug GW withdrawals + Aug GW returns)*

<u>Minimization Requirements (to the greatest extent feasible):</u>

- Desktop Optimization
- Water Releases and Returns
- Additional Conservation Measures (Including more stringent outside water use restrictions)

<u>*Permittees may avoid Minimization through:</u>

1. **Data refinement- showing August NGD is less than 25%, or**
2. **By conducting a Site-Specific Fish Community Assessment**

Mitigation

Mitigation Standard:

- "commensurate with impact", defined as:
  - volume of increase over baseline
  - does the increase cause a category change?
- considers cost and efficacy

Baseline is the largest of the following:

- 2003 – 2005 water use + 5%
- 2005 water use +5 %
- the community's registered volume
- Must be in compliance with volume authorized in 2005

Permit Tiers		Mitigation Requirements
Tier 1 = No increase above baseline	→	no mitigation
Tier 2 = Increase but no category change	→	commensurate mitigation
Tier 3 = Increase and category change	→	commensurate mitigation (2:1 if indirect mitigation) show no feasible alternative

Direct Mitigation

Can be volumetrically calculated

Eligible Activities:

1. Infiltration and inflow improvements
2. Stormwater recharge (directly connected impervious area redevelop to recharge)
3. Surface water releases

Indirect Mitigation Activities

Qualitative Credit System

- Install & maintain fishway
- Culvert replacements meeting crossing standards
- Stream bank/channel/buffer restoration
- Private well bylaw
- Stormwater utility, bylaw with recharge or implement MS4*

*must result in increased recharge to get credit

- Acquire property in Zone I or II, or for other resource protection
- Infiltration/Inflow removal program
- Remove dam or flow barrier

Mitigation Plan Development

Action hierarchy

1st: Demand Management to stay below baseline

2nd: Direct/quantifiable mitigation

3rd: Indirect/non-quantifiable mitigation

Location hierarchy (where a choice exists)

1st: same subbasin as withdrawals (considering water quality)

2nd upstream from the subbasin of withdrawals (considering water quality)

3rd: same major basin as withdrawals

4th: different major basin

Take cost and feasibility into account

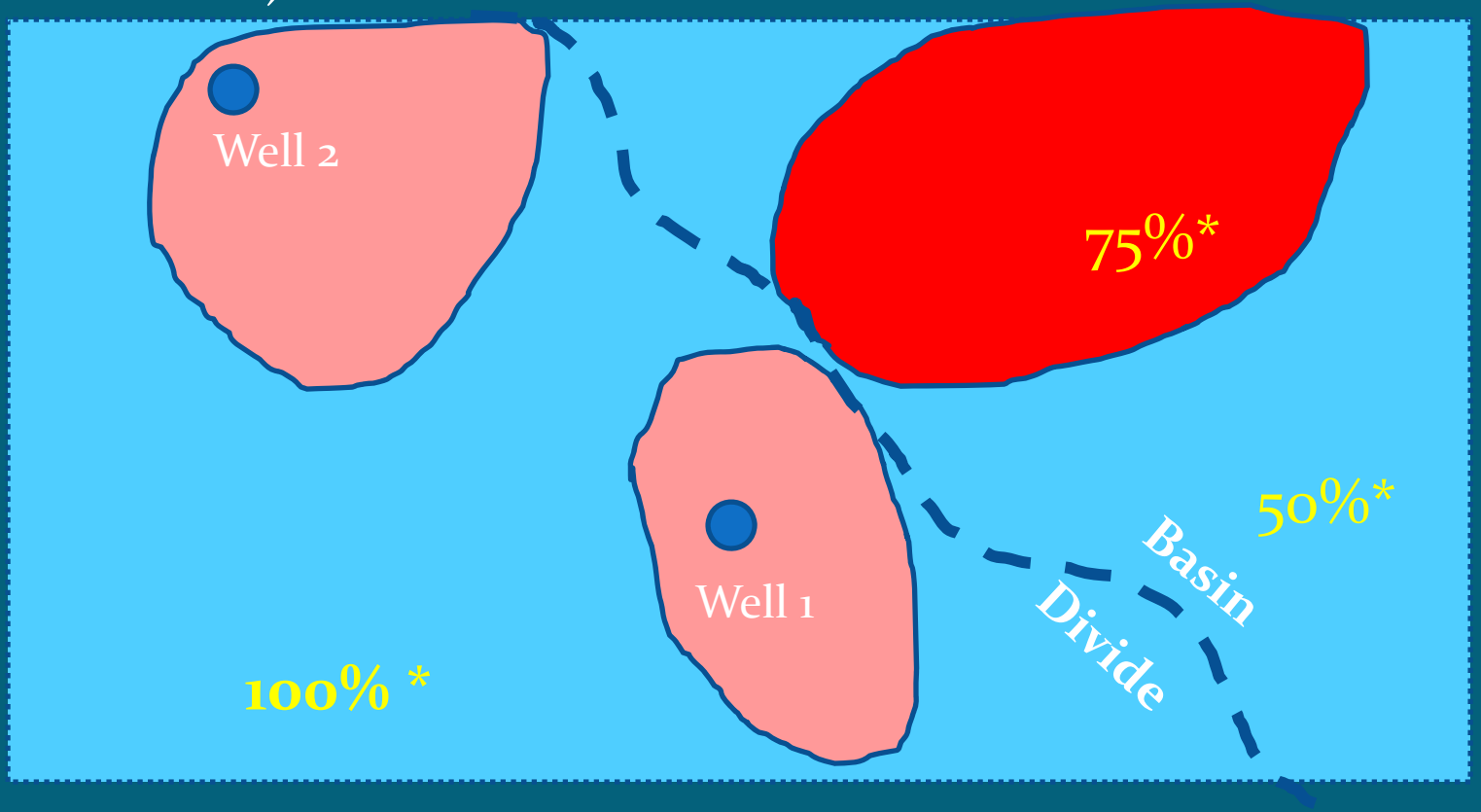
Mitigation Plan Timing

- Mitigation Plan is a live document
- Must be submitted at start of permit, can be phased-in based on use
- Retroactive credits (since 2005) considered if activity/benefit still in effect
- Volumes over Baseline must be mitigated prior to withdrawal (with allowances if withdrawals are already over baseline)

Mitigation Adjustments

Withdrawal location(s) and wastewater returns may result in adjustments in mitigation volumes and credits

- Wastewater Adjustment (* also adjusted by consumptive use factor)
- Location Adjustment Factor



Concord Basin Specifics

- Who withdraws & how much?
- What are my water use restriction triggers?
- Who needs to minimize?
- Who has Cold Water Fishery Resources?
- What is my baseline?
- Do I need to mitigate? Projected Tier?
- What mitigation options exist?

Total Concord Water Use

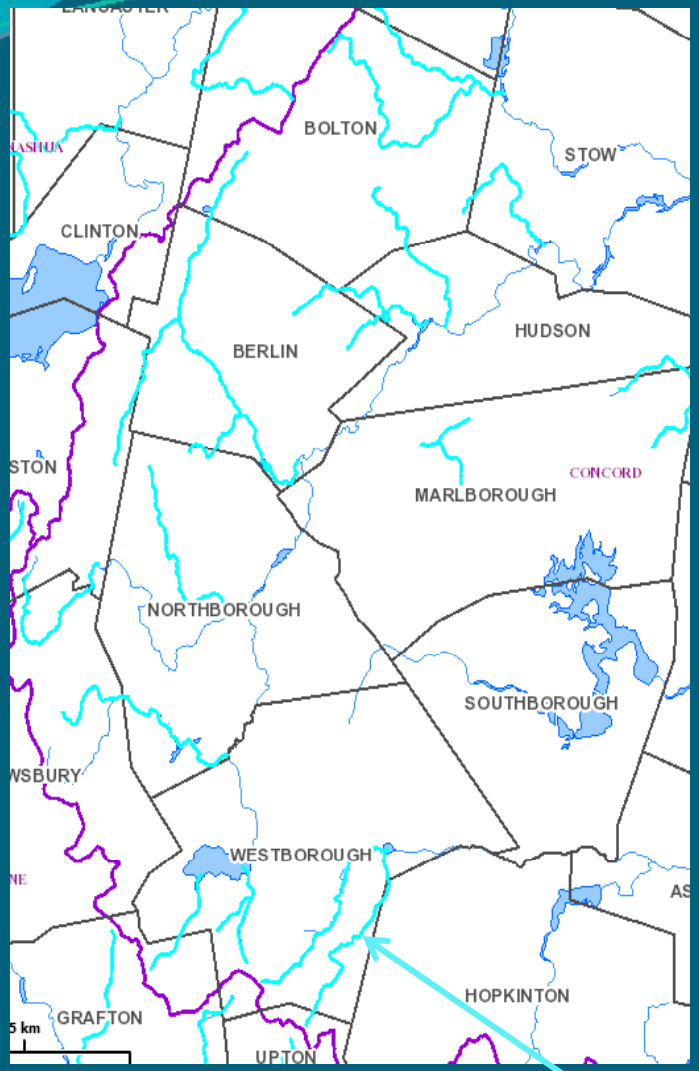
Use Type	Registered Users	Permitted Users	Registered Volumes (mgd)*	Permitted Volumes (mgd)*
PWS	16	13	25.88	7.44
INDUST	5	2	1.22	0.38
AGRI	6	1	0.66	0.047
GOLF	3	2	0.21	0.076
WMAOTH	1	0	0.29	0
CRAN	1	0	0.36	0
Total	32	18	28.62	7.94

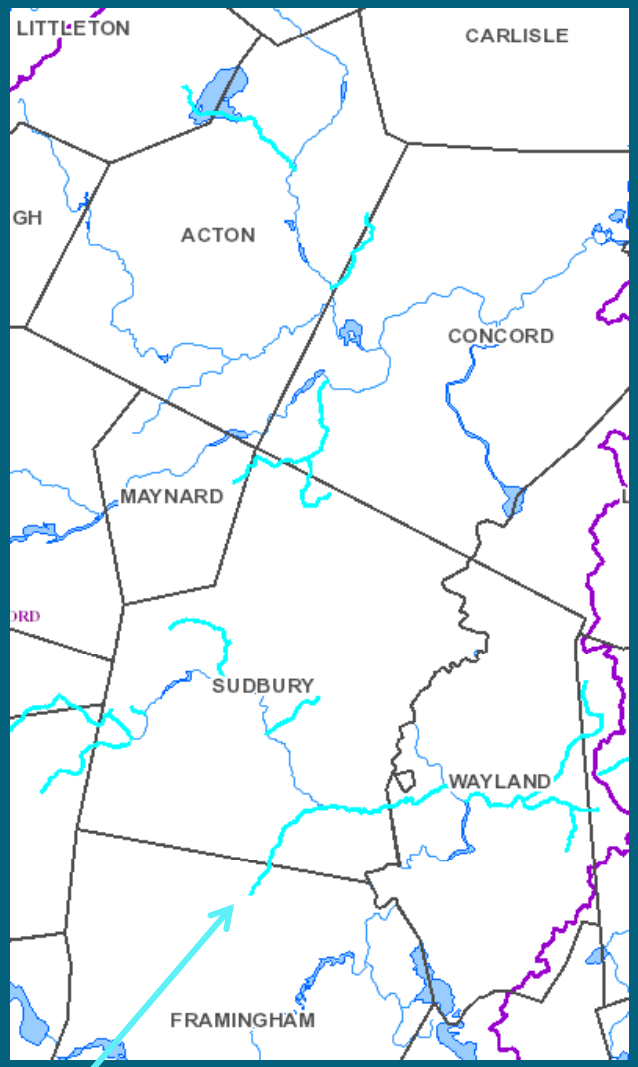
* Withdrawal volume calculated based on 365 days

Permitted Concord Users

Name	Registration Volume (mgd)	Current Permit Volume (mgd)	Total Authorized Volume (mgd)
Acton Water District	1.56	0.38	1.94
Ashland Water & Sewer Department	1.23	0.95	2.18
Billerica Water Department	4.41	0.93	5.34
Chelmsford Water District	1.80	0.22	2.02
Concord Water Department	2.10	0.42	2.52
East Chelmsford Water District	0.13	0.10	0.23
Hopkinton Water Department	0.56	0.65	1.21
Hudson Water Department	2.00	0.95	2.95
Marlborough DPW-Water Division	0.58	1.42	2.00
Maynard Department of Public Works	1.09	0	1.09
Sudbury Water District	1.72	0.36	2.08
Wayland Water Department	1.66	0.11	1.77
Westborough Water Department	1.92	1.18	3.10
Bigelow Nurseries Inc	0.15	0.08	0.23
Intel Corp	0.11	0.24	0.35
Juniper Hill Golf Course	0	0.15	0.15
Nashawtuc Country Club	0.10	0	0.10
US Army Soldier Systems Center	0	0.14	0.14

Concord Water Fishery Resources



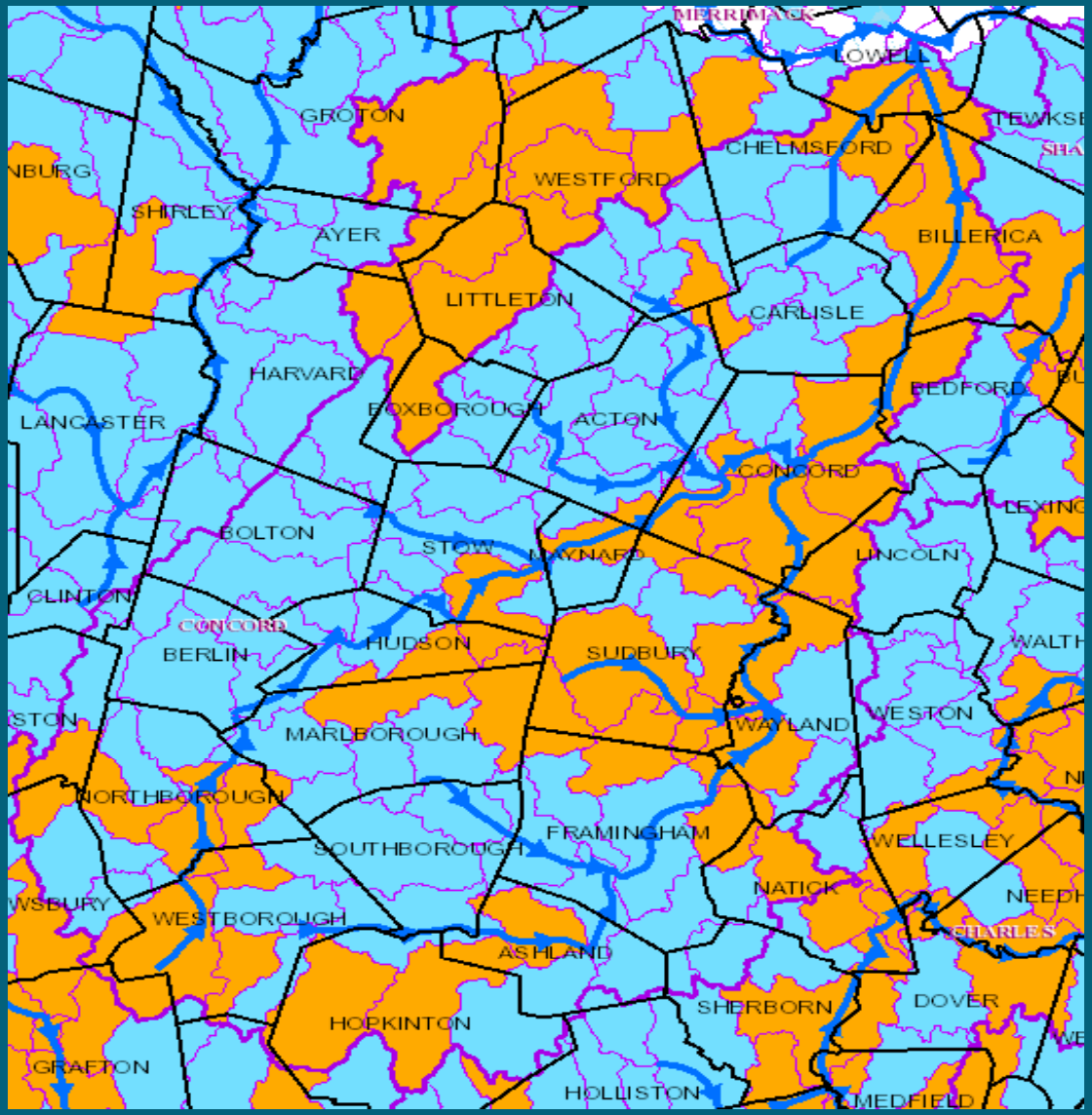


CFRs are light blue

CFRs are considered a particularly sensitive receptor warranting protection.

CFR Consultation required
Concord Water Dept.
Hudson Water Dept.
Sudbury Water District
Westborough Water Dept.
Bigelow Nurseries

Concord Minimization Requirements



Permittees
Acton
Ashland
East Chelmsford
Concord
Hopkinton
Hudson
Sudbury
Wayland
Westborough
Bigelow Nurseries
Nashawtuc C.C.
US Army SS Center

Concord PWS Baseline Volumes

Concord Basin PWS	Baseline Volume (mgd)	Reported Use 2012 (mgd)	Reported Use 2013 (mgd)	Reported Use 2014 (mgd)
Acton Water District	1.79	1.68	1.68	1.72
Ashland Water & Sewer Department (includes volumes sold)	2.18	1.91	1.89	1.90
Billerica Water Department	5.34	4.00	3.84	3.91
Chelmsford Water District	1.80	0.92	0.93	1.05
Concord Water Department	2.15	2.04	2.07	1.99
East Chelmsford Water District	0.23	0.15	0.10	0.12
Hopkinton Water Department (includes volume purchased)	0.98	1.0	1.05	1.03
Hudson Water Department	2.52	2.12	2.02	2.02
Marlborough DPW-Water Division (Marlborough sources only)	1.77	1.67	1.69	1.82
Maynard Department of Public Works	1.09	0.84	0.93	0.88
Sudbury Water District	2.08	1.74	1.74	1.72
Wayland Water Department	1.66	1.21	1.47	1.35
Westborough Water Department	2.30	2.23	2.08	1.97

Concord Non-PWS Baselines

Name	Baseline Volume (mgd)	Current Total Allocation (mgd)	Reported Use 2012 (mgd)	Reported Use 2013 (mgd)	Reported Use 2014 (mgd)
Bigelow Nurseries Inc	0.15	0.23	0.17	0.21	0.19
Intel Corp	0.11	0.35	0.11	0.05	0
Juniper Hill Golf Course	0.10	0.15	0.08	0.06	0.08
Nashawtuc Country Club	0.10	0.10	0.04	0.06	0.06
US Army Soldier Systems Center	0.10	0.14	NR	NR	NR

Concord Nonessential Water Use Triggers

Trigger	May- June Trigger Value (cfs)	July – Sept. Trigger Value (cfs)	7 Day Low Flow Trigger Value (cfs)	Permittees assigned
Sudbury River at Saxonville, MA	108	38	15	Ashland,Hopkinton,US Army Soldiers System
Assabet River At Maynard, MA	119	42	18	Bigelow, Hudson, Intel, Juniper Hill, Marlborough, Maynard, Westborough
Nashoba Bk, near Acton, MA	10	3	0.57	Acton
Concord R below R Meadow Bk, at Lowell	427	156	71	Billerica, Chelmsford, Concord, East Chelmsford, Nashawtuc, Sudbury, Wayland

Online SWMI Interactive Maps

- GIS map provides an interactive graphic display that includes:
  - GWC & BC
  - August Net groundwater depletion
  - Water use points
  - Cold Water Fishery Resources
  - Aquifers and more

- Map is at

http://www.mass.gov/eea/agencies/massdep/water/watersheds/sustainable-water-management-initiative-swmi.html

MassDEP Permitting Tool

- Displays data and equations to determine BC, GWC, August NGD for 1400 subbasins.
- User may increase or decrease water use and see resulting change in above values.
- Two main views:
  - PWS information includes: recent usage, baseline volumes, projected usage, sources, and other users
  - Subbasin information includes: cumulative area, % of impervious cover, streamflow values, etc.

MassDEP Permitting Tool

Find by Subbasin ID: 12063 | Find by PWS System Name: | Click to use pull downs and to View All Subbasins | All Water Use Points in Subbasin Report | Calculation Tool Report

Find by PWSID: | Find PWS by Town Name:

Click on "X" in upper right of this form to close this window and return to main page.

Double Click on Sub Basin ID to view water use volumes

Subbasin Characteristics

Sub Basin ID:	Major Basin:	HUC12 Name:
12063	Concord	Sudbury River-Hop Brook to mouth

Subbasin Cumulative Data (includes this subbasin and all upstream contributing subbasins)

Subbasin Information		August Wastewater Discharges (mgd)		August Groundwater Withdrawals (mgd)		Additional GW Withdrawal Volume to Cause a Change in Existing GWC and BC:	
Area (Square Miles):	162.54	Ground Water Discharge:	0.221	PWS and Commercial Wells:	13.694	To Change GWC (mgd):	0.360
Impervious Cover (%):	14.6	Septic Systems:	+ 3.722	Private Wells:	+ 0.697	To Change BC (mgd):	0
Surface water withdrawals exist in or upstream of subbasin:	YES	Total Subsurface Discharge:	= 3.943	Total Groundwater Withdrawals:	= 14.392		
		Surface Water (NPDES):	2.688				

Individual Subbasin Data (only includes this subbasin)

Coldwater Fisheries Resource Exist: No

Net Groundwater Depletion (NGD)

Net Groundwater Depletion (%): 39.0

Positive value indicates depleted.
Negative value indicates surcharged.

Unaffected streamflow, Ground Water withdrawals, Groundwater Withdrawal Category (GWC) and Biologic Category (BC).

Estimated August Condition			Proposed Changes to existing GW Withdrawal			Existing vs. Proposed	
			Change (+/-) to existing GW Withdrawal (mgd)	0		Calculate / Clear	
Unaffected Streamflow (mgd)*		26.822	Unaffected Streamflow(mgd)	26.822			
GW Withdrawals (mgd)**	-	14.392	Proposed Total GW Withdrawal (mgd)	- 14.392			
(Unaffected Streamflow) - (GW Withdrawals)	=	12.430	(Unaffected Streamflow) - (Prop. GW Withdrawal)	= 12.430			
(GW Withdrawals) / (Unaffected Streamflow)	=	53.7%	(Proposed GW Withdrawal) / (Unaffected Streamflow)	= 53.7%		0.0%	Percent Difference
Groundwater Withdrawal Category (1-5)	GWC:	4	Proposed Groundwater Withdrawal Category (1-5)	4		NO	Change in GWC?
Biologic Category (1-5)	BC:	5	Proposed Biologic Category (1-5)	5		NO	Change in BC?

USGS report SIR 2009-5272 ("Mass. Indicators") describes subbasin delineation, streamflow simulation, and water withdrawal and discharge volume calculations.

* August unaffected streamflow = median August streamflow simulated using 1960-2004 USGS records of measured daily streamflow.
Streamflow simulated for pour point of subbasin and includes streamflow from all upstream subbasins.

** GW Withdrawals = 2000 to 2004 average August pumping from PWS and commercial wells; private well volumes estimated from U.S. Census data.
mgd = million gallons per day

Groundwater Withdrawal Category (GWC) is the ratio of GW Pumping to Unaffected Streamflow (in percent) in the following ranges:
GWC1 (0 to <3%); GWC2 (3 to <10%); GWC3 (10 to <25%); GWC4 (25 to <55%); GWC5 (55% or greater)
Biologic Category (BC) is the estimated biological condition based on streamflow, impervious cover and natural basin characteristics.
The Biological Categories represent the estimated percent loss in the relative abundance of fluvial fish in the following ranges:
BC1 (0 to <5%); BC2 (5 to <15%); BC3 (15 to <35%); BC4 (35 to <65%); BC5 (65% or greater)

Net Groundwater Depletion (NGD)(%) is the percent change in August unaffected stream flow due to groundwater withdrawals (increases depletion) and groundwater

Summary Info for Concord Permits

Concord Permits	Current Allocation (MGD)	DCR Forecast (MGD)	Potential Ask (MGD)
Acton Water District	1.94	Under Review	1.94
Ashland Water & Sewer Department	2.18	2.52 (includes 0.5 for Hopkinton)	2.18
Billerica Water Department	5.34	Under Review	5.34
Chelmsford Water District	2.02	Under Review	1.80
Concord Water Department	2.52	Under Review	2.52
East Chelmsford Water District	0.23	Under Review	0.23
Hopkinton Water Department	1.21	Temporary Allocation	1.21
Hudson Water Department	2.95	Under Review	2.95
Marlborough DPW-Water Division	2.00	Temporary Allocation	2.00
Maynard Department of Public Works	1.09	Temporary Allocation	1.09
Sudbury Water District	2.08	Under Review	2.08
Wayland Water Department	1.77	Temporary Allocation	1.66
Westborough Water Department	3.10	Temporary Allocation	3.10
Bigelow Nurseries Inc	0.23	Not Applicable	0.23
Intel Corp	0.35	Not Applicable	0.35
Juniper Hill Golf Course	0.15	Not Applicable	0.15
Nashawtuc Country Club	0.10	Not Applicable	0.10
US Army Soldier Systems Center	0.14	Not Applicable	0.14

Summary Info for Concord Permits

Concord Permits	CFR Consult	Minimization required	Projected Permit Tier	Alternative analysis
Acton Water District	No*	Yes	2	No
Ashland Water & Sewer Department	No	Yes	1	No
Billerica Water Department	No	No	1 or 2	No
Chelmsford Water District	No	No	1 or 2	No
Concord Water Department	Yes	Yes	2 or 3	?
East Chelmsford Water District	No	Yes	1	No
Hopkinton Water Department	No	Yes	3	Yes
Hudson Water Department	Yes	Yes	1 or 2	No
Marlborough DPW-Water Division	No	No	2	No
Maynard Department of Public Works	No	No	1	No
Sudbury Water District	Yes	Yes	1	No
Wayland Water Department	No	Yes	1 or 2	No
Westborough Water Department	Yes	Yes	1, 2 or 3	?
Bigelow Nurseries Inc	Yes	Yes	2	No
Intel Corp	No	No	2	No
Juniper Hill Golf Course	No	No	2	No
Nashawtuc Country Club	No	Yes	1	No
US Army Soldier Systems Center	No	Yes	2	No

*** CFR Present but consultation with DFG will not be required**

Concord Harbor Permit Reviews

Concord Permit Holder	DEP Review	DCR Review
Acton Water Dist.	Kickham	McCrory
Ashland Water & Sewer Dept.	Connors	Drury
Billerica Water Dept.	D'Urso	McCrory
Chelmsford Water Dist.	Friend	McCrory
Concord Water Dept.	Connors	Cohen
E. Chelmsford Water Dist.	Friend	McCrory
Hopkinton Water Dept.	Kickham	Drury
Hudson Water Dept.	Kickham	Drury
Marlborough DPW	Kickham	Drury
Maynard DPW	Kickham	Drury
Sudbury Water Dist.	Connors	Drury
Wayland Water Dept.	McCann	Drury
Westborough Water Dept.	Kickham	Drury
Bigelow Nurseries Inc	Kickham	-
Intel Corp	Kickham	-
Juniper Hill Golf Course	Kickham	-
Nashawtuc C. C.	Friend	-
US Army Soldier Center	Butler	-

DEP Reviewers

Name	Email	Phone #
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Richard Friend	richard.friend@state.ma.us	617-654-6522
Beth McCann	elizabeth.mccann@state.ma.us	617-292-5901

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Marilyn McCrory	Marilyn.mccrory@state.ma.us	617-626-1423
Sara Cohen	sara.cohen@state.ma.us	617-626-1374

Community-Specific One-Page Summary Sheet

Includes 6 summary tables:

1) Reported Use 2009-13
2) Performance Standards
3) WNF Scenarios
4) Permit Data
5) Subbasin Data
6) Streamflow Triggers

example

Permit Requirements*	
CFR Consult?	Yes/no
Minimization required?	Yes/no
Estimated renewal request in mgd	1.47
Baseline (BL) in mgd	1.54
Projected increase above BL in mgd	-0.07
Estimated Permit Tier	1
Mitigation Required?	no

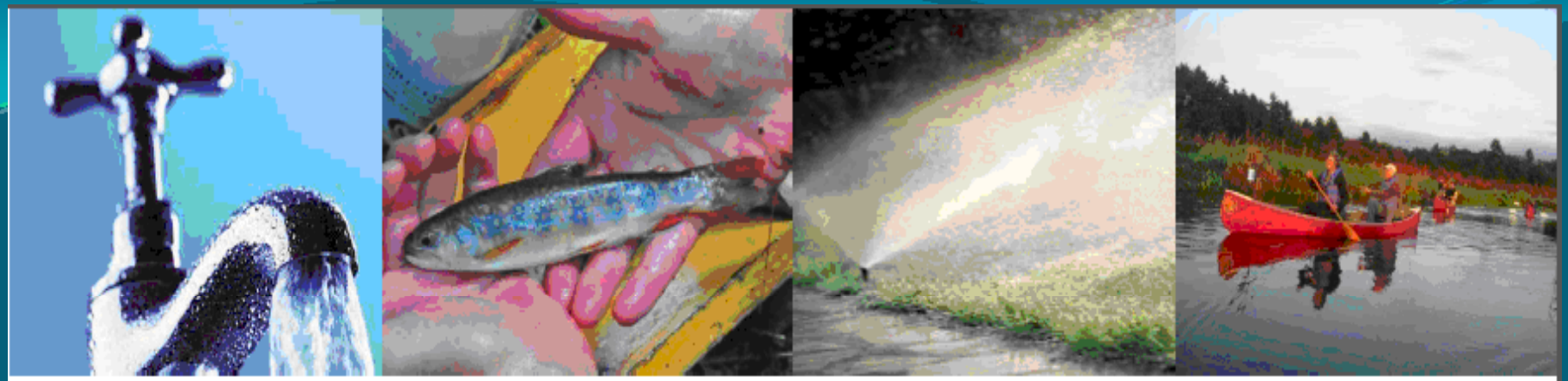
*includes comments to explain data sources and decisions

WMA Regulations and Permit Assistance

- Regulation (Promulgated November 7, 2014) and Policy Development (Ongoing)
- Permit application forms and worksheets
- Financial assistance (Annual Grant Program)
  - Eligible planning projects:
    - Optimization
    - Outdoor water use restrictions
    - Implementation of reasonable water conservation
      - NEWWA and MWWA Toolbox of BMPs
  - Eligible implementation projects:
    - Demand management (water audits, soil moisture sensors etc..)
    - Mitigation projects designed to improve flow impacts
      ex. dam removal, culvert replacement, etc.

SWMI Feasibility Grant

- 2014 Grant issued to Hudson to evaluate minimization and mitigation options
- Evaluated demand management, wastewater returns, I/I reduction, optimization/alternative suppliers, water releases, and storm water recharge opportunities in:
  - Hudson (I/I savings + stormwater recharge)
  - Marlborough (I/I savings)
  - Maynard (I/I savings + stormwater recharge)
  - Sudbury (Stormwater recharge)
  - Wayland (Stormwater recharge)



Meeting Requirements for Water Supply Permitting

Join us for a free training session

Wednesday June 3, 9 am-noon

Westborough Fire Station

42 Milk St., Westborough MA 01581

Learn how to use the new Watershed Management Optimization Support Tool (WMOST)

Further information

- MassDEP Technical Resources webpage at:
  http://www.mass.gov/eea/waste-mgnt-recycling/water-resources/preserving-water-resources/sustainable-water-management/

- MassDEP SWMI webpage at:
  http://www.mass.gov/dep/water/resources/swmi.htm

- Massachusetts Sustainable Water Management Initiative (SWMI), Framework Summary, November 28, 2012 at :
  http://www.mass.gov/eea/docs/eea/water/swmi-framework-nov-2012.pdf

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