

Southwest Regional Pipeline

2020 Diversion Permit Application

Public Input Meeting

August 24, 2020

Dan Lawrence – Aquarion:

Ingrid Jacobs– Aquarion:

Peter Galant – Tighe & Bond:

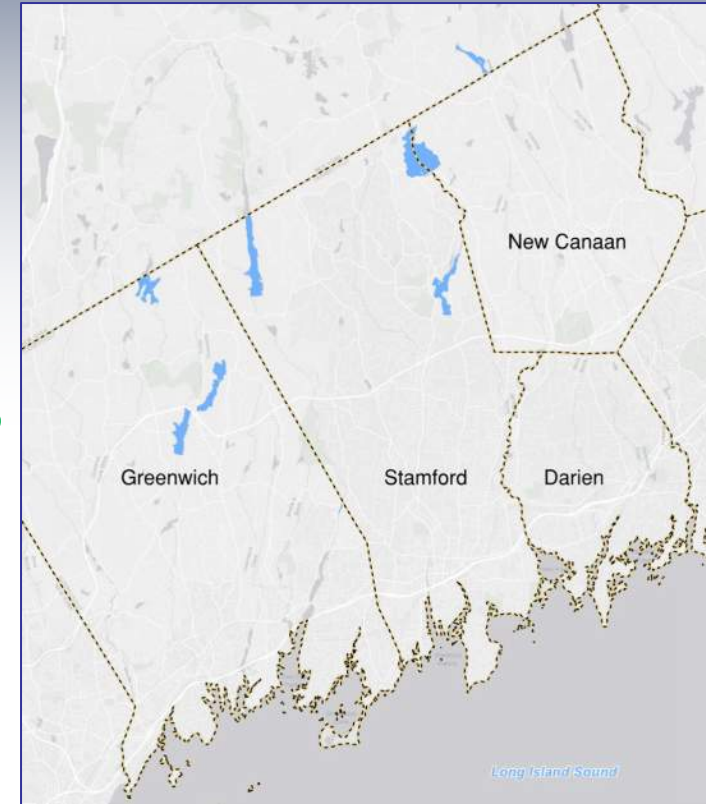
Vice President, Engineering, Planning & Real Estate
Manager, Water Resources & Infrastructure Planning

Vice President

Objective

To provide:

- Adequate public water supply
 - Improve drought resilience
 - Meet reservoir release requirements
- in Southwest Fairfield County.



Outline

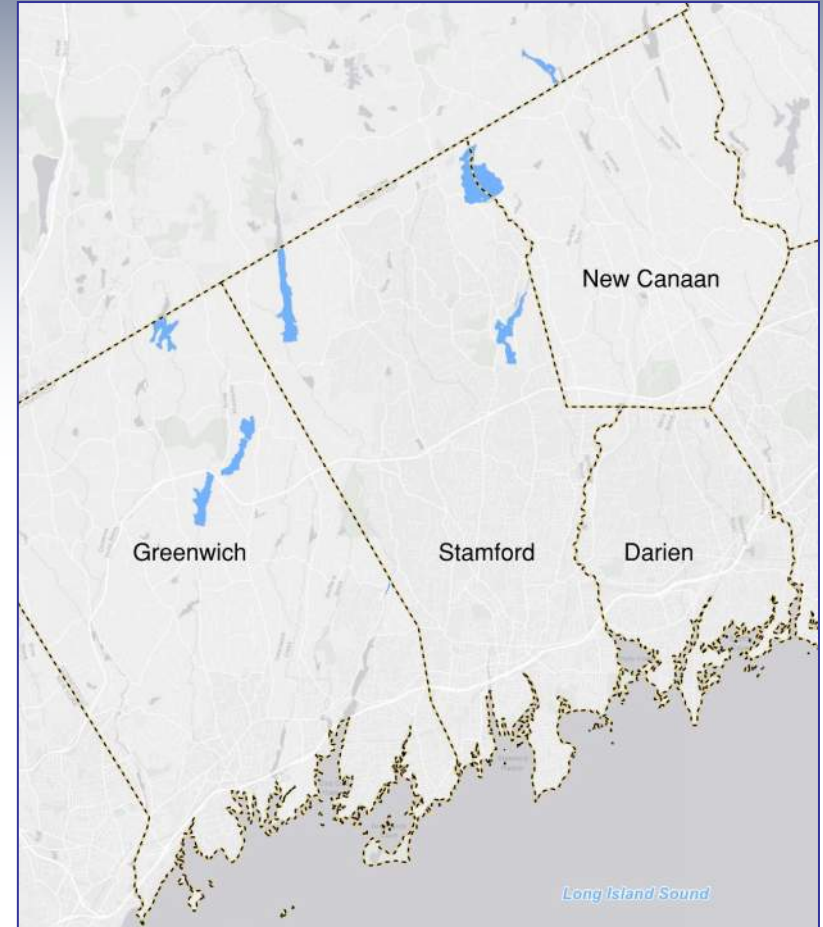
- Background
- Water Supply Need
- Alternatives
- Solution

Increase capacity to transfer water from the Greater Bridgeport System through the Southwest Regional Pipeline (SWRP)

- Impact on Greater Bridgeport System

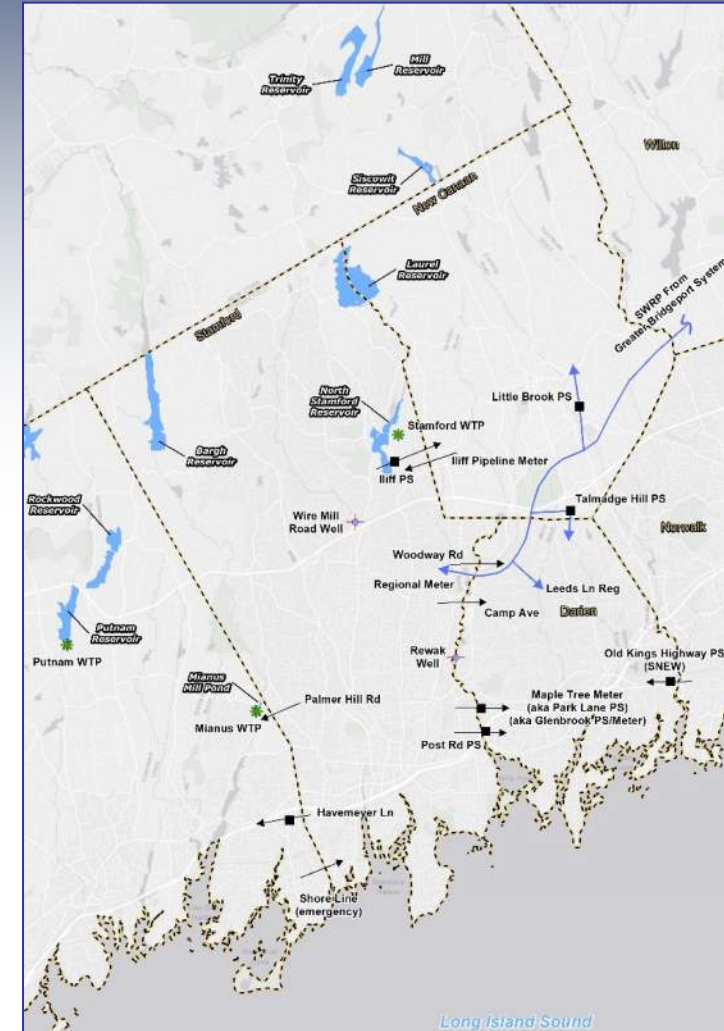
Southwest Fairfield County Region

- Four towns
- Four public water systems
- 200,000 people served
- Water Usage
 - Average Day = 33 mgd
 - Maximum Day = 50 mgd
- Local Sources
 - Greenwich Reservoirs
 - Stamford Reservoirs
 - Wire Mill Well (Stamford)
 - Rewak Well (Darien)



Southwest Regional Pipeline (SWRP)

- From Greater Bridgeport System
- In service since 1990
- Diversion Permit
 - DIV 97-13
 - 7.26 mgd
 - Expires June 2023

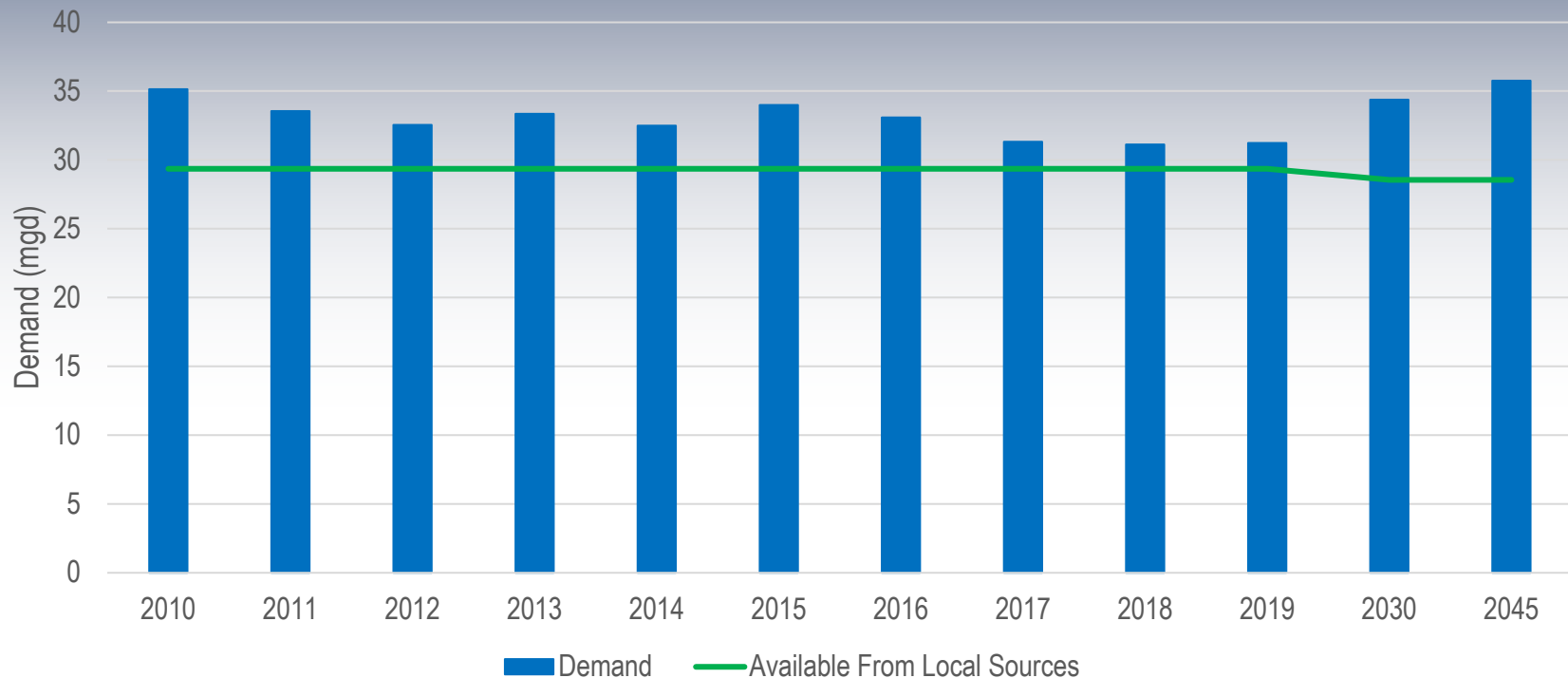


Available Water – Annual Average

Source	Available Water – Current (mgd)	Available Water >2029 ¹ (mgd)
Greenwich Reservoir System	14.4	14.3
Stamford Reservoir System	14.3	13.6
Wire Mill Well (Stamford)	0.30	0.30
Rewak Well (Darien)	0.35	0.35
Subtotal Local Sources:	29.35	28.55

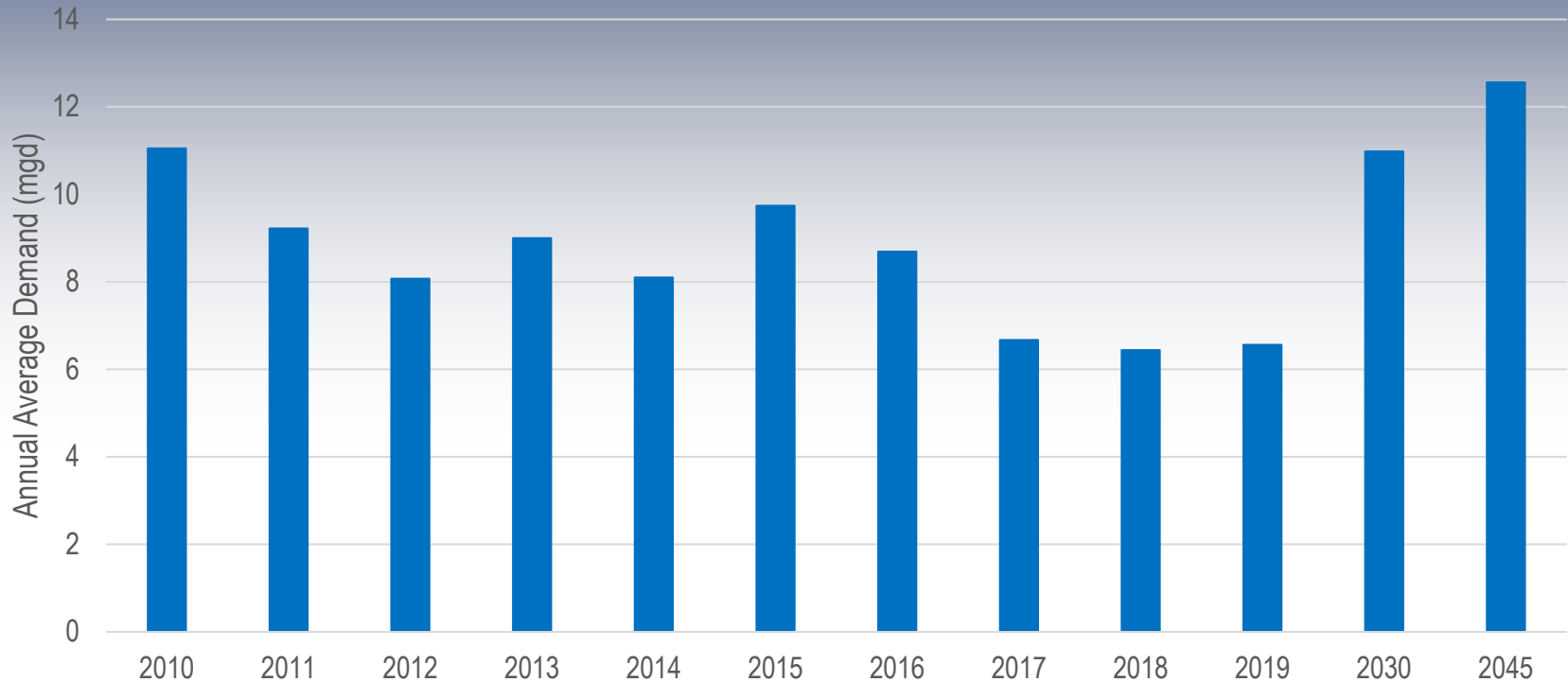
1. Following implementation of increased streamflow releases.

SWFCR Demands – Annual Average



SWFCR demands are projected to increase, but not significantly higher than in the past.
Demands cannot be met from local sources alone.

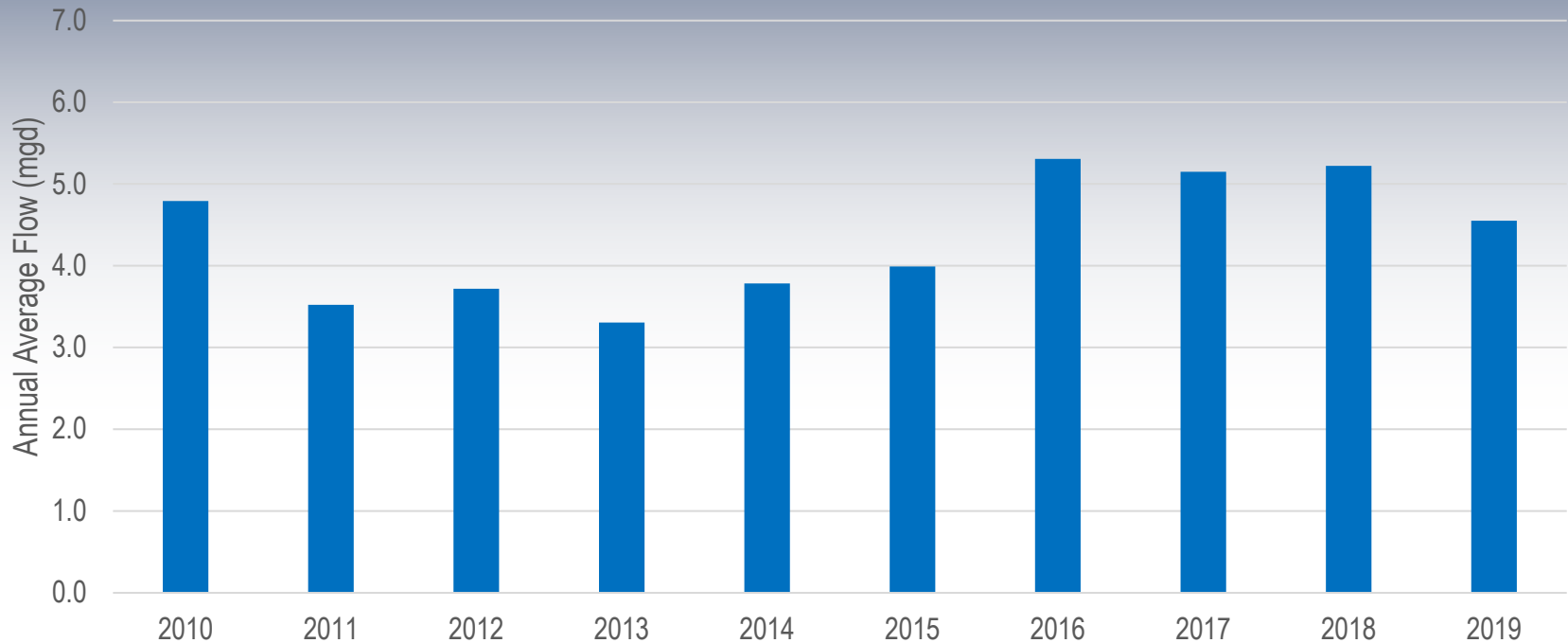
Capacity Needed In Addition to Local Sources



1. Based on Margin-of-Safety (Supply/Demand) = 1.15
2. Projections include increased demands and reduced available water.

Annual average supply of 12–13 mgd is required from the SWRP to meet DPH target for adequate supply.

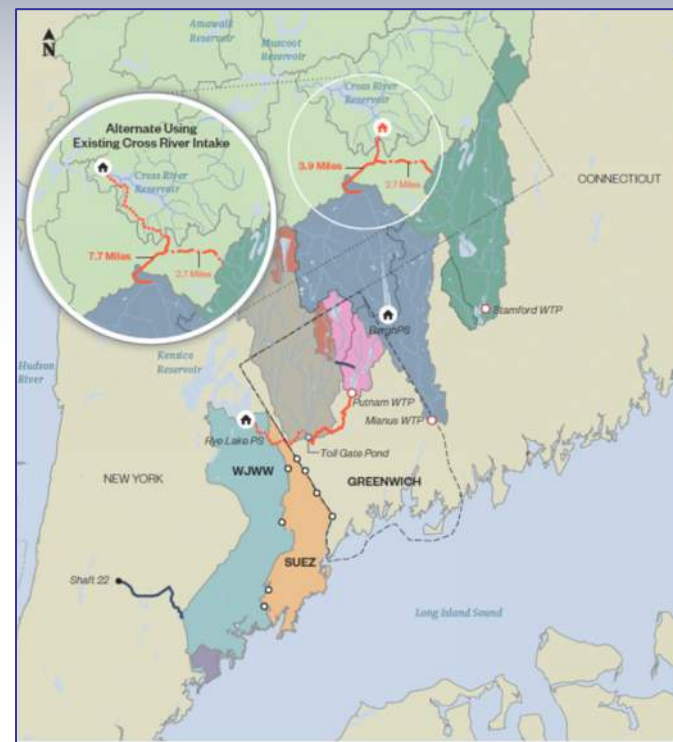
Annual Average SWRP Flows



Transfers generally maximized when Stamford reservoirs stop spilling.
Improvements (in process) are needed to achieve 7.26 mgd permit capacity over an entire year.

Alternatives Considered

- Purchase water from New York City
 - Treated
 - Multi-party agreement, premium rate, new filtration plant, distribution upgrades
 - Raw
 - Interstate transfer, regulatory hurdles, NYDEC concerns, Class B supply
- Increase reservoir storage
 - 500 MG (≈ 7 feet in Bargh) storage increase ≈ 0.6 mgd increase in safe yield
- Develop groundwater supply
 - Upper Byram River Aquifer, insufficient yield potential to meet need
- Increase Southwest Regional Pipeline (SWRP) capacity



Conservation is Key To All Alternatives

- Amy Vickers & Assoc.
- Irrigation Restrictions
 - SWFCR: 2017
 - Westport/Newtown: 2018
 - Continued expansion
- Demand reductions observed
 - Additional 2030 savings: 0.2-1.5 mgd
- Success Will:
 - Reduce transfers
 - Delay Improvements

<http://aquarionwater.com/CT/waterconservation>

Conservation Tips to Reduce Outdoor Water Usage



Responsible Watering Starts Here

For Aquarion Customers in Darien, Greenwich, New Canaan, Newtown, Stamford and Westport

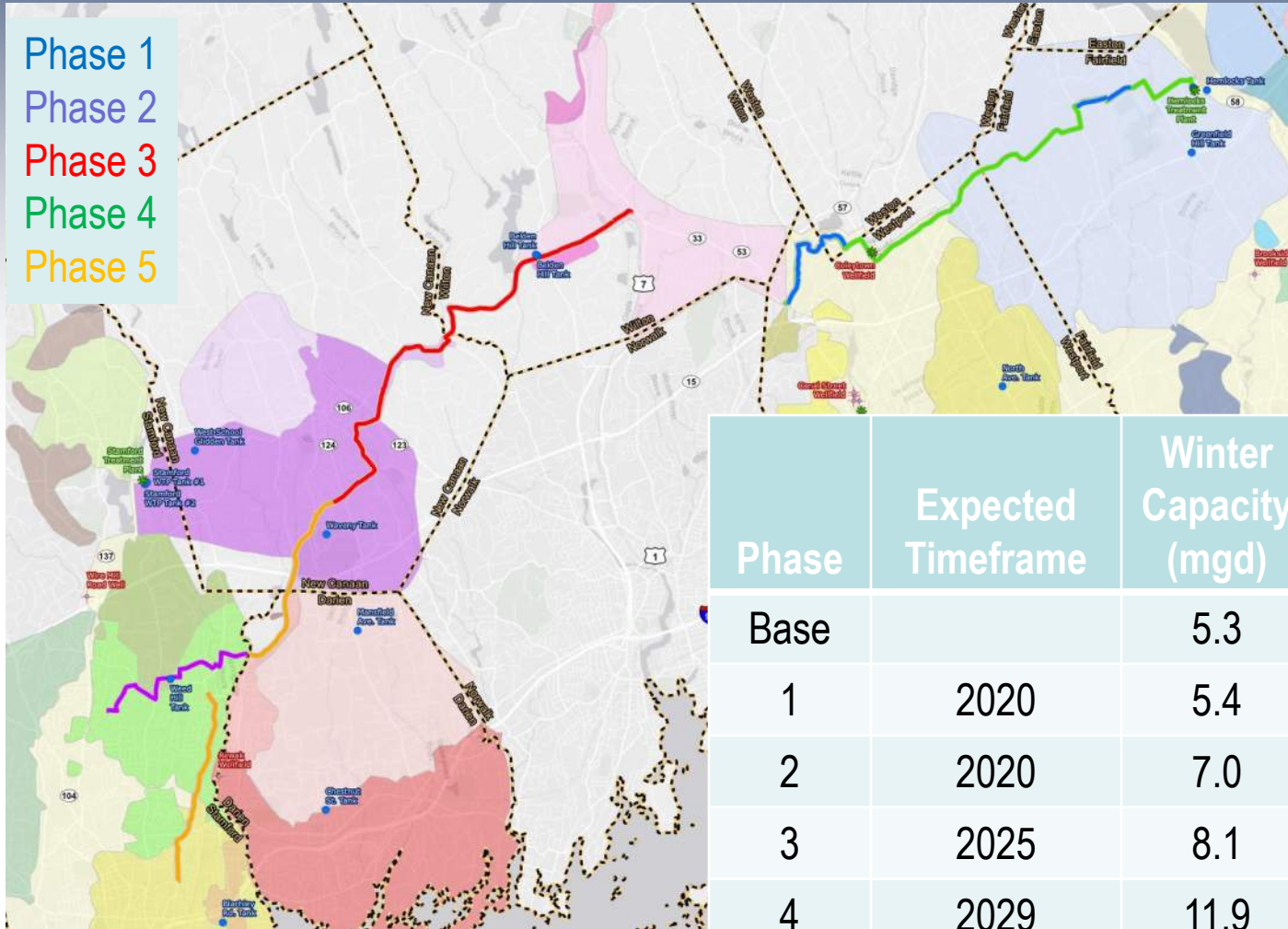


Mandatory, Maximum Twice-Weekly Sprinkler Irrigation Schedule

Last Digit of Your Address Number	Please Water Only On:
0, 2, 4, 6 or 8 (even numbers)	Sunday & Wednesday 12:01 am – 10:00 am, or 6:00 pm – Midnight
1, 3, 5, 7 or 9 (odd numbers)	Saturday & Tuesday 12:01 am – 10:00 am, or 6:00 pm – Midnight
No address number	Sunday & Wednesday 12:01 am – 10:00 am, or 6:00 pm – Midnight

SWFCR Improvement Plan

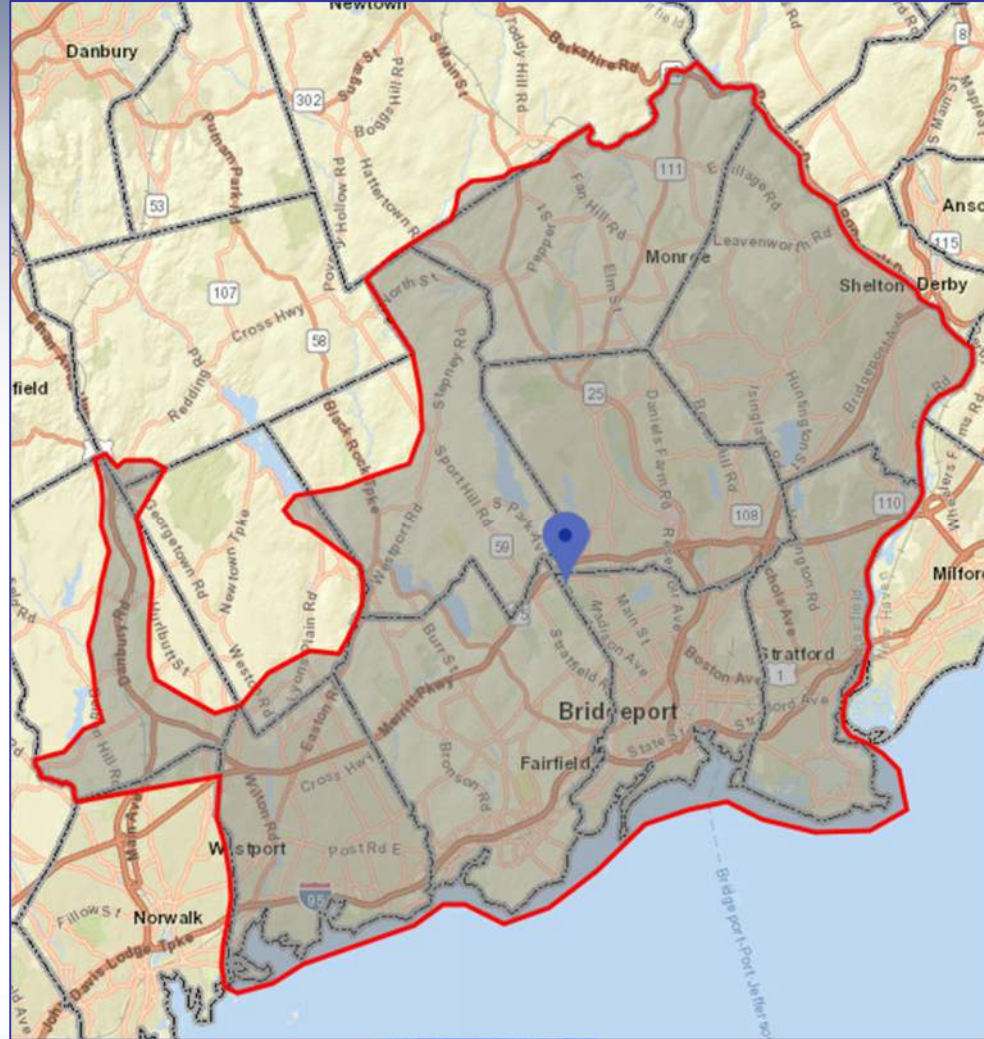
- Phase 1
- Phase 2
- Phase 3
- Phase 4
- Phase 5



Phase	Expected Timeframe	Winter Capacity (mgd)	Summer Capacity (mgd)	Average Capacity (mgd)
Base		5.3	4.2	4.8
1	2020	5.4	7.5	6.5
2	2020	7.0	7.8	7.4
3	2025	8.1	9.2	8.7
4	2029	11.9	14.2	13.1
5	≈2045	16.5	17.0	16.8

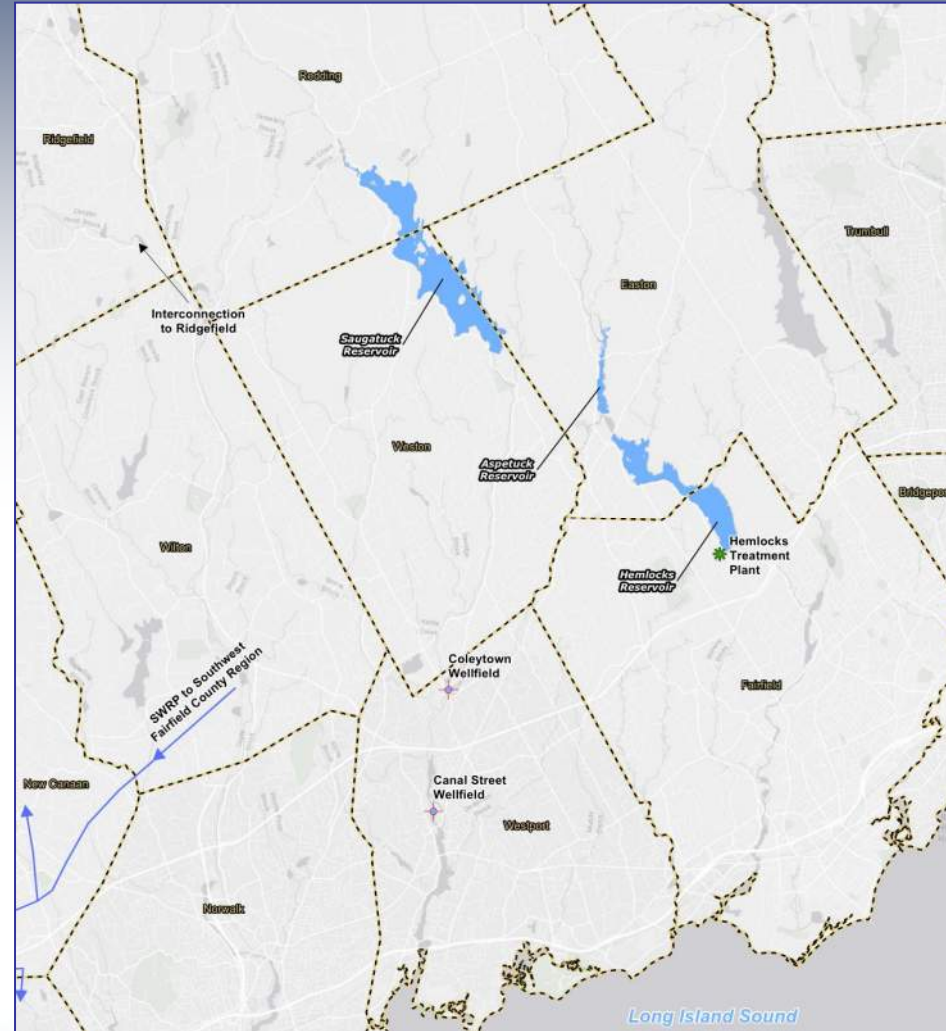
Southwest Regional Pipeline Supply

- Greater Bridgeport System



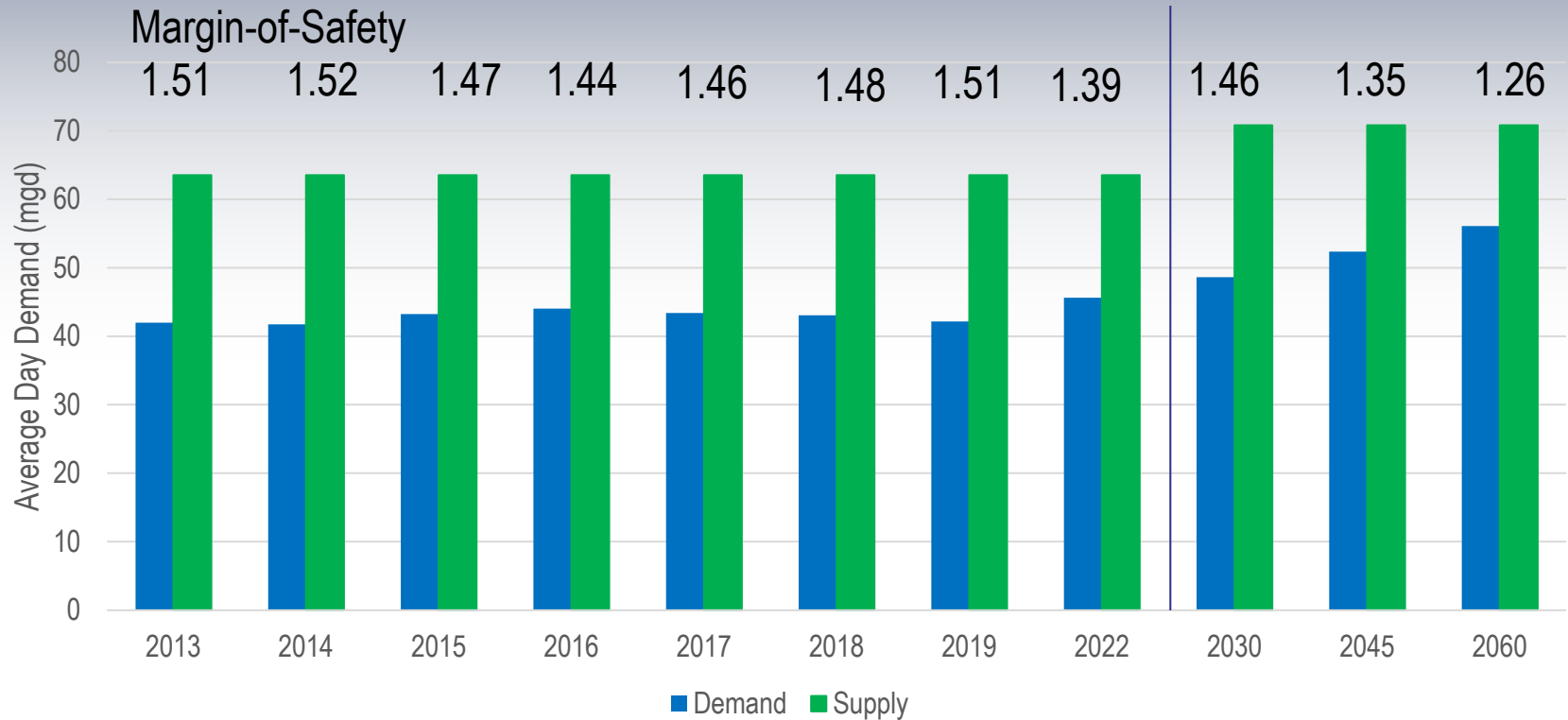
Southwest Regional Pipeline Supply

- Hemlocks Reservoir System
 - Saugatuck
 - Aspetuck
 - Hemlocks
- Canal Street Wellfield
- Coleytown Wellfield



Impact on Greater Bridgeport System

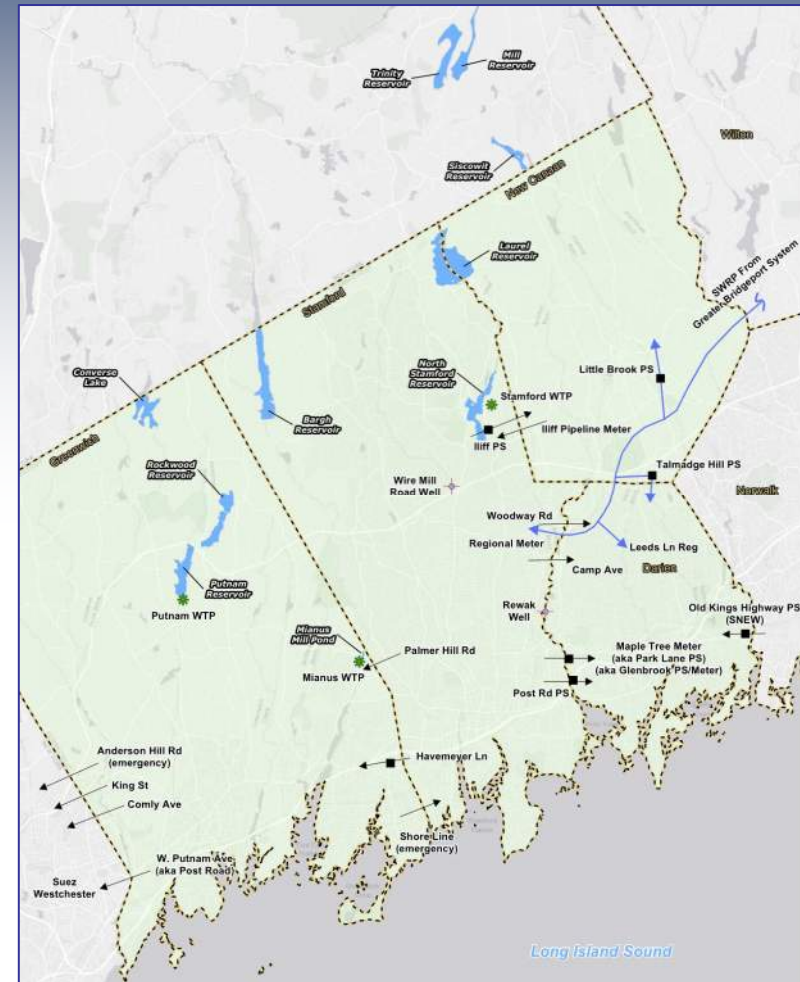
Start of streamflow releases and reactivation of Housatonic Wellfield @ 11.58 mgd



With reactivation of the Housatonic Wellfield the Greater Bridgeport System has adequate supply to meet increased demands and make all required reservoir releases.

SWRP Diversion Permit Application

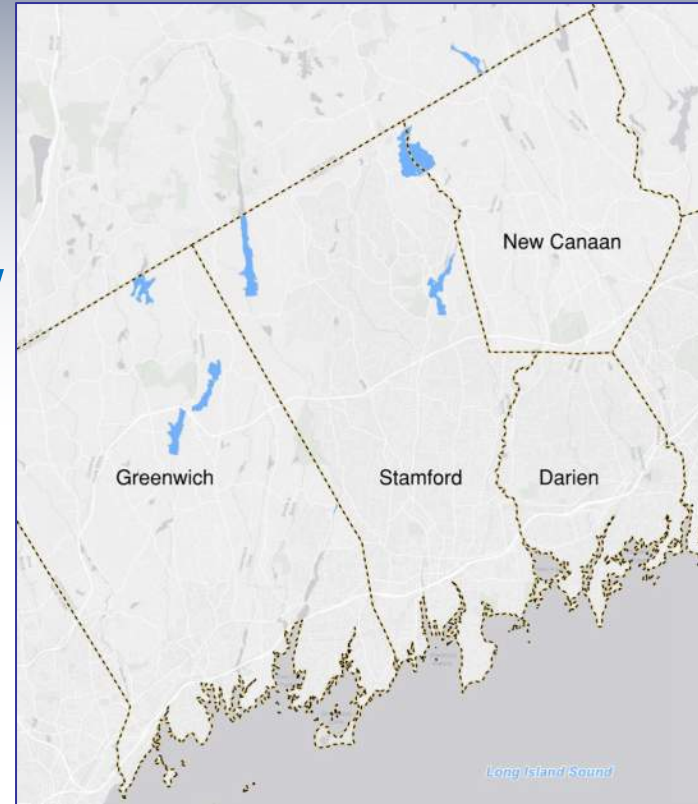
- Greater Bridgeport System to SWFCR
- Maximum daily limit = 14.2 mgd
- Confirm four towns in SWFCR are one service area
 - Eliminates registrations for transfers between towns
- Term = 25 years



Objective

By implementing improvements and obtaining this permit we will:

- Provide adequate public water supply
 - Improve drought resilience
 - Meet reservoir release requirements
- in Southwest Fairfield County.



Public Comment

- Questions can be emailed by September 2nd to:

SWRP@tighebond.com