

## Task 1B-2 White Paper – REVISED DRAFT 10-18-16

# Current Conservation Patterns, Trends, or Plans and Economic Development Trends

This paper outlines land management, and summarizes land conservation plans and economic development patterns, trends, or plans as available by region. While it draws upon localized examples, this is be a general examination of trends and practices at the regional level.

## 1. Local Planning

### 1.1. Municipal Plans of Conservation and Development

Chapter 126, Section 8-23 of the Connecticut General Statutes requires that municipal planning commissions “prepare, adopt and amend a plan of conservation and development for the municipality” once every ten years. A Plan of Conservation and Development (POCD) is the official statement from a municipality setting forth its goals and aspirations for the future land use, development, and environment of the community. POCDs typically include information about the current housing stock, utilities, roads, parks and recreational facilities, natural features, and other valuable resources as well as strategies for how those features should be improved or maintained in future years. Among many things that the POCD should include, it shall consider protection of existing and potential public surface and ground drinking water supplies (see text box).

POCDs are based on data, planning analysis, and community and institutional knowledge to identify goals and convey broad ideas about future development, conservation efforts, and other priorities for improving the community over the course of a decade. POCDs are policy documents intended to direct both public and private development and act as a guide to both short- and long-term decision-making, but are not regulatory in nature. A current POCD acts a guide for making suitable investments and implementing appropriate regulatory solutions to municipal challenges.

In preparing a POCD, the community shall consider the following: (1) the community development action plan of the municipality, (2) the need for affordable housing, (3) the need for protection of existing and potential public surface and ground drinking water supplies, (4) the use of cluster development and other development patterns to the extent consistent with soil types, terrain and infrastructure capacity within the municipality, (5) the state plan of conservation and development adopted pursuant to chapter 297, (6) the regional plan of conservation and development adopted pursuant to section 8-35a, (7) physical, social, economic and governmental conditions and trends, (8) the needs of the municipality including human resources, education, health, housing, recreation, social services, public utilities, public protection, transportation and circulation and cultural and interpersonal communications, (9) the objectives of energy-efficient patterns of development, the use of solar and other renewable forms of energy and energy conservation, (10) protection and preservation of agriculture, and (11) sea level change scenarios published by the National Oceanic and Atmospheric Administration in Technical Report OAR CPO-1.

## 1.2. Municipal Economic Development Planning

Municipalities are enabled to plan for economic development as part of the POCD insofar as the fact that POCDs must address areas for commercial development, infrastructure, etc.

Municipalities are not required to develop stand-alone economic development plans, but many choose to do so.

Municipal Economic Development Plans set out a comprehensive analysis of economic development conditions in the municipality, and provide strategic direction for improving the community's economic future. Economic Development Plans address the community's competitive advantages and challenges, identify redevelopment priorities, and lay out strategies for building upon existing strengths and niches while diversifying the municipality's tax and employment base. The planning process also addresses opportunities for the municipality to benefit from regional trends, investments, and partnerships. These Plans provide guidance and coordination for the efforts of Town officials, economic development staff, and members of the business and development community.

A Comprehensive Economic Development Strategy (CEDs) can be developed regionally, and they are required to access federal economic development dollars. They generally identify and prioritize redevelopment and investment sites/areas in a region, and as such should be aligned with local POCDs.

## 1.3. Municipal Planning Efforts that Affect Water Management

POCDs directly address water through several discussions. At a minimum, water is addressed in the chapters that focus on natural resources and public utilities/infrastructure, although POCDs often differ in their organization. POCDs typically include a myriad of statements related to the following:

- Protection of wetlands and watercourses
- Protection of aquifers
- Protection of water quality
- Reduction of stormwater generation through Low Impact Development and other methods
- Consideration of flood hazards
- Consideration of coastal hazards (in coastal municipalities)
- Areas served by sanitary sewer and areas not served by sanitary sewer
- Areas served by public water systems and areas not served by public water systems
- Needs related to sanitary sewer service and/or public water service

Various legislative acts have encouraged water quality and quantity management in the development of local plans and regulations over the years. For example, Public Act 85-279 amended CGS 8-23 and CGS 22a-42 to require municipal planning and zoning commissions as

well as inland wetland agencies to incorporate consideration of existing and potential surface and groundwater source protection in their local plans and regulations.

The goals, objectives, and actions listed in POCDs will sometimes lead to new ordinances and changes in local regulations (Subdivision, Zoning, and others). This is one of the most direct ways in which POCDs can affect water. POCDs can also lead to the formulation of other plans and the receipt of grants for studies and projects that could also affect water. CGS Section 8-2 states that zoning regulations should be adopted with “reasonable consideration for the protection of existing and potential public surface and ground drinking water supplies.”

Some municipalities resist water and wastewater systems, or system expansions, because of the belief that they will enable development. For example, Old Saybrook is a municipality that decided against implementing centralized wastewater treatment because the town was concerned about the potential for intensive coastal development.

#### **1.4. Municipal Land Use Approvals that Link to Water Management**

DEEP provides a comprehensive description of land use approvals on its web site (“Who Regulates Land Use in Connecticut?”) at <http://www.ct.gov/deep/cwp/view.asp?a=2703&q=433388>. In their review of land use and land development applications, the various commissions active in each municipality (Planning Commission, Zoning Commission, Planning and Zoning Commission, Conservation Commission, and Inland Wetland Commission) have unique roles in water management. Some of the key roles include the following:

- Applications to wetland agencies are reviewed for adverse impacts to wetlands and watercourses
- Zoning district changes and zoning text amendments are typically reviewed in light of the availability of sanitary sewers and/or public water service
- Subdivision proposals are reviewed in light of the availability of sanitary sewers and/or public water service vs. the use of septic systems and wells<sup>1</sup>
- The initial approvals for a site plan application typically require that a source of water has been identified (public water system or individual well) and that the sanitary needs for the property have been addressed (sanitary sewer system or subsurface sewage disposal system)
- Zoning district changes and zoning text amendments are typically reviewed in light of the proximity to flood hazard areas

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<sup>1</sup> Public Act 08-184 resulted in a report that addresses concerns about the adequacy of private well supplies for subdivisions:  
[http://www.ct.gov/dph/lib/dph/environmental\\_health/private\\_wells/pdf/recommend\\_to\\_cga\\_ensuring\\_adequacy\\_purity\\_of\\_new\\_pdww.pdf](http://www.ct.gov/dph/lib/dph/environmental_health/private_wells/pdf/recommend_to_cga_ensuring_adequacy_purity_of_new_pdww.pdf)

- Subdivision proposals are reviewed in light of the proximity to watercourses and flood hazard areas
- Calculations related to stormwater management and drainage are reviewed
- Proposed developments in DEEP-delineated aquifer protection areas are reviewed for consistency with the local aquifer protection regulations
- Land use applicants and their agents must notify water utilities and DPH of applications for projects or developments that are proposed in public water supply watersheds or aquifer protection areas
- Proposed projects in the coastal management area reviewed for consistency with the State’s coastal management policies and regulations

### **1.5. Water Management Programs that Link to Municipal Land Use Approvals**

The many land use approvals described above have, as their companions, a web of water management programs that affect municipal land use decisions and management. For example:

- The Certificate of Public Convenience and Necessity for new public water systems (administered by DPH and PURA) is intricately linked to the local land use approvals that require proof of a viable water source
- The DEEP’s aquifer protection program relies on local review of projects and administration of the municipality’s aquifer protection regulations (specifically, the water utility delineates the Aquifer Protection Areas in accordance with the mapping regulations and the municipality must adopt the mapping and implement the land use restrictions at the local level)
- The National Flood Insurance Program (NFIP) specifically identifies the “community” (municipality) as the entity that enforces flood damage prevention regulations in the areas delineated by FEMA as special flood hazard areas
- DPH is entitled to provide comments to local land use commissions related to projects that are proposed in public water supply watersheds and public water supply aquifers, and the commissions must consider these comments in their review and approval of projects. These reviews occur after land use applicants and their agents directly notify water utilities and DPH of their application, as explained above.

The above list includes only a few notable examples. In fact, many of the programs described in the 1B-1 paper have resulted in some type of linkage to municipal land use decisions. Despite the strong home rule tendencies, the State’s municipalities are closely connected to water management programs and decisions made at the State level.

It is easy to identify the top-down State water management programs that affect land use decisions at the local level, but it isn’t always easy to see how local land use decisions have affected water management. While reviewing the many factors that must be considered to

approve a subdivision or development project, local commissions and agencies aren't always able to foresee the long term consequences. For example, a subdivision may be approved with individual wells and septic systems, but 40 years later the area may need either a public water system or a sanitary sewer system to address water quality concerns that have slowly developed over time. Likewise, the subdivision approval may not have included consideration of changing precipitation patterns or intensities, and nuisance flooding could occur more frequently in the future. The result is that the State has been faced with the task of helping municipalities address water quantity and water quality problems that have come to light over the last few decades.

## 2. Regional Planning

### 2.1. Regional Plans of Conservation and Development

Connecticut's planning regions provide a geographic framework within which municipalities can jointly address common interests, and coordinate such interests with state plans and programs. Among these plans is the Regional Plan of Conservation and Development, which provides recommendations involving land use, housing, parks, recreational areas, and other matters of regional importance.

The Plan not only provides a regional vision for conservation and development, but also serves as the basis for the Councils of Government (COGs) to fulfill their roles of commenting on the consistency of municipal Plans of Conservation and Development with regional and state-level plans and growth management principles.

The Connecticut General Statutes require Regional Planning Organizations (RPOs) to update their Plans of Conservation and Development at least once every 10 years. Because the State's RPOs were reorganized in 2013-2014, the status of the Regional Plans of Conservation and Development are in flux. Several RPOs were merged and two were dissolved, and all RPOs became COG. The number of RPOs changed from 15 to nine. Therefore, some of the existing Regional Plans of Conservation and Development are not coterminous with the COGs that inherited them. These inconsistencies will change over the next few years as new regional plans are developed.

### 2.2. Regional Planning Efforts that Affect Water Management

The COGs typically develop regional plans that fall into several categories:

- Conservation and development
- Transportation
- Emergency planning, hazard mitigation, and emergency response
- Special committees
- Special projects

The Regional Plans of Conservation and Development often serve as the filter between local POCDs and the State Conservation and Development Policies Plan (described below) and

therefore the regional plans have the ability to affect long-term development which is closely tied to water as noted above. The COG transportation planning efforts have significantly potential to affect water directly (e.g. through roadway widening near watercourses) or indirectly (e.g. by changing traffic patterns which can affect economic development). The emergency planning and hazard mitigation planning efforts are typically focused on flooding and flood management (e.g. through multi-jurisdiction hazard mitigation plans) as well as other facets of emergency planning that are not related to water.

The COGs can form subcommittees to address water issues of interest. For example, the Southeastern Connecticut Council of Governments (SCCOG) has organized a subcommittee to address long-term water supply issues and challenges in southeastern Connecticut. The subcommittee has divided the region into three sub-regions (northern, southwest, and southeast) and has identified a number of projects in each of the three sub-regions that can strengthen the entire southeastern Connecticut region.

And finally, many of the special projects coordinated by the COGs could be related to water. For example, two COGs (WestCOG and SCCOG) secured grants to identify methods of helping their members municipalities join the FEMA Community Rating System (CRS) program to promote flood mitigation and reduce flood insurance premiums.

Aside from their planning functions, the COGs have one special role related to water management. By State statute, each COG is a member of a water utility coordinating committee (WUCC) and therefore has been granted a direct hand in developing the State's three coordinated water system plans. Subsequent to developing the coordinated water system plans, the COGs will continue as WUCC members and will be able to help make additional decisions relative to public water services throughout the State.

As noted in Section 1.2, A CEDS can be developed regionally. These are sometimes developed by COGs in Connecticut. A CEDS is required to access federal economic development dollars. They generally identify and prioritize redevelopment and investment sites/areas in a region, and as such should be aligned with local POCDS. As such, a CEDS could affect water in the same ways described throughout this paper.

## 3. State Planning

### 3.1. State Conservation and Development Policies Plan

The Conservation and Development Policies Plan is developed and updated on a five-year revision cycle by the Office of Policy and Management and adopted by Connecticut's General Assembly under the provisions of Chapter 297, Section 16a-24 to 16a-33 of the Connecticut General Statutes. The current Plan was Adopted by the Connecticut General Assembly on June 5, 2013, and includes six Growth Management Principles that lay out major priorities for guiding conservation and development across the state, as well as policy statements that provide a basis for state agencies to assess the consistency of their proposed plans and actions with the State Plan:

1. Redevelop and Revitalize Regional Centers and Areas with Existing or Currently Planned Physical Infrastructure;
2. Expand Housing Opportunities and Design Choices to Accommodate a Variety of Household Types and Needs;
3. Concentrate Development Around Transportation Nodes and Along Major Transportation Corridors to Support the Viability of Transportation Options;
4. Conserve and Restore the Natural Environment, Cultural and Historical Resources, and Traditional Rural Lands;
5. Protect and Ensure the Integrity of Environmental Assets Critical to Public Health and Safety; and
6. Promote Integrated Planning Across all Levels of Government to Address Issues on a Statewide, Regional and Local Basis

These Principles, as well as a Locational Guide Map included in the Plan, are intended to guide actions by state agencies, particularly those involving major property acquisitions or development or state grants for development projects. The Plan also serves an advisory role for municipal plans, regulations, and land use decisions; and is a central focus of Environmental Impact Evaluations (EIEs) conducted under the Connecticut Environmental Policy Acts (CEPA).

### **3.2. Economic Development Planning**

Connecticut's economic development planning is conducted by the State Department of Economic and Community Development (DECD) through the State's Economic Development Strategy. The Plan is updated annually and examines a variety of indicators and addresses the outlook for statewide economic development, examining strengths, weaknesses, opportunities, and threats to economic growth. It identifies existing business clusters that drive Connecticut's growth, high-priority sectors for targeted efforts to attract additional investment, and key priorities for attracting and retaining talent in the state. The planning process results in strategies for statewide agencies to support business recruitment, branding, education, workforce development, entrepreneurship, and local livability.

The Economic Development Strategy (2015) targets "priority investment areas including healthcare/ bioscience, insurance and financial services, advanced manufacturing, digital media, tourism, and green technologies, with attention to how these sectors collaborate and intersect." Within these targeted industries are "more specialized areas that show promise for the Connecticut economy including biomedical devices, aircraft manufacturing, and boat building." The four objectives of the plan (and its sub-objectives) are:

- Grow the Business Clusters that Drive Connecticut's Economy and Encourage Entrepreneurial Development
  - Retain and grow existing job base
  - Facilitate ecosystems for industries to strengthen, connect, and collaborate

- Support entrepreneurial activities
- Build exports and encourage foreign direct investment
- Promote Connecticut’s brand effectively nationally and international
- Ensure a Workforce that Meets the Needs of the Future
  - Understand the future needs of employers
  - With education partners, grow and enrich our talent pool and develop both short and long range initiatives to invest in our institutions around the key STEAM (science, technology, engineering, arts, and mathematics) skills
- Create Livable, Vibrant Communities
  - Create vibrant neighborhoods through innovation, art, culture, and historic preservation
  - Ensure quality housing at a broad range of prices
- Invest in Infrastructure and Support Systems that will Foster Business Growth
  - Continue to strategically invest in transportation infrastructure
  - Work to reduce or offset the cost of energy while reducing greenhouse gas emissions
  - Continue efforts to create a more responsive government that reforms the regulatory environment and makes it easier to do business in the state
  - Encourage environmentally-friendly, modern, and resilient development

### **3.3. Population Projection Data Sets**

Statewide Population Projections are prepared and updated by two major entities – the Connecticut State Data Center at the University of Connecticut, and the Connecticut Department of Transportation:

- The State Data Center is the State’s lead agency in the U.S. Census Bureau’s State Data Center Program that makes data available locally to the public through a network of state agencies, universities, libraries, and regional and local governments. As part of this mission, the State Data Center provides population projections to assist state agencies, non-profit organizations, businesses, governments, and centers/organizations to identify potential population changes into the future. These projections are based on several datasets, including state and locally derived fertility rates. The State Data Center’s current projections are available in five-year increments for 2015-2025.
- The Department of Transportation projects statewide and local population as an input into statewide long range transportation planning and modeling efforts. Current projections are prepared based on data from the 2010 Decennial Census by the Office of Coordination,

Modeling, and Crash Data’s Bureau of Policy and Planning. The Department of Transportation’s projections are available in ten-year increments for 2020-2040.

When the DOT projections are compared to those prepared by the Connecticut State Data Center (CTSDC), some discrepancies are noted. For instance, the CTSDC population projections show more modest growth rates compared to the DOT projections. While the DOT projections show continued population growth across all municipalities, the CTSDC projections show many rural and suburban towns losing population up to 2025. When the DOT projections and the CTSDC projections are compiled by classification (rural, suburban, and urban), similar trends emerge. The urban, suburban, and rural population projections are slightly lower for the CTSDC projections through 2025 than for the DOT projections.

The State Water Plan Policy Group has promoted use of the State Data Center projections. The Water Supply Assessments prepared in September 2016 pursuant to the WUCC process have presented and described both sets of population projections, deferring the selection of projections to a later phase of the WUCC process. The CTSDC reports that its population projections will likely be updated by the spring of 2017 such that they will be available for additional planning.

### **3.4. Climate Change Preparedness Plan**

Public Act No. 08-98, An Act Concerning Connecticut Global Warming Solutions, required the Governor’s Steering Committee on Climate Change to establish an Adaptation Subcommittee to evaluate the projected impacts of climate change on Connecticut’s agriculture, infrastructure, natural resources and public health; and develop strategies to mitigate these impacts. The Adaptation Subcommittee detailed the projected impacts of climate change in a 2010 report, “The Impacts of Climate Change on Connecticut Agriculture, Infrastructure, Natural Resources and Public Health.” The second report prepared pursuant to the Act is the Connecticut Climate Change Preparedness Plan (2011).

A list of adaptation strategies is provided in the Connecticut Climate Change Preparedness Plan. Perhaps not surprisingly, more than half of the many actions in the plan are related to water:

- Encourage development practices that ensure water recharge
- Encourage sustainable water capture and storage by homeowners, municipalities, businesses, and industries, and the agriculture sector with incentive programs to supplement capture and storage infrastructure
- Develop water reuse guidelines for industry
- Encourage adaptation strategies, including natural habitat conservation, Low Impact Development (LID) Best Management Practices (BMPs), agriculture water BMPs and drinking water treatment standards that will ameliorate the effects of water inundation
- Minimize water use across all agricultural sectors
- Assess current and future needs for potable water uses and to plan for infrastructure improvements to the public water system

- Assess future needs for non-potable water uses
- Assess future flooding risks to natural and built infrastructure, including agricultural operations and public health and safety
- Analyze the competing demands on Connecticut water quantity and quality statewide in a consistent and comprehensive manner and develop new approaches to ensure public health, agricultural sustainability, ecosystem health, while supporting multiple and conflicting needs
- Target water conservation education towards specific consumer groups
- Assess the impact of climate change on wastewater treatment facilities, and encourage the development of facility-specific adaptation plans
- Determine the critical public buildings, including public health facilities, schools and cultural/historic buildings that will be impacted by coastal and inland flooding, and recommend appropriate adaptation strategies that will not adversely impact natural resources
- Perform a comprehensive modeling assessment of the extent of inland migration of tidal marshes essential for directing adaptation actions
- Broaden water use planning to include climate change projections
- Adopt a water hierarchy that includes water conservation, capture and storage and water reuse, similar to the well-known solid waste management “reduce, reuse and recycle” hierarchy
- Target headwaters for protection throughout the state
- Implement rate structures to accommodate long term system improvements and encourage conservation
- Examine opportunities for water conservation strategies within the building code, in appliance standards and in regulatory decisions
- Minimize combined sewer overflows
- Acquire land and conservation easements to provide upslope advancement zones adjacent to tidal marshes
- Acquire land and conservation easements in riparian areas adjacent to coldwater streams
- Apply climate change projections to future stream flow regulations
- Continue to support funding to provide for adequate updates to municipal sewage infrastructure

- Support funding to provide for adequate updates to municipal water infrastructure

### 3.5. State Green Plan

Recognizing the threat of loss of environmental resources to changes in land use, the General Assembly set a goal of protecting 21% of Connecticut's land by 2023 for public open space. With a total of 3,205,760 acres in the State, 673,210 acres must be protected to meet this goal. The statute set open space acquisition targets for both the State and its land protection partners (municipalities, private non-profit land conservation organizations, and water utilities):

- 10% (or 320,576 acres) is to be acquired and held by the State of Connecticut
- 11% (or 352,634 acres) is to be acquired and held by DEEP's land conservation partners

As of December 31, 2015, about 501,330 acres were held as open space in Connecticut, or 74% of the total open space goal.

"The Green Plan: Guiding Land Acquisition and Protection in Connecticut 2007-2012" is an update of the original Green Plan (2001). This document is a strategic plan for land acquisition and protection for the state of Connecticut through the year 2012. As such, it provides general guidance for program managers, is a tool for those who want to work with the state in preserving land, and offers a basic overview for the public of the state's land acquisition and protection program. The current Green Plan lists the types of properties that should be acquired and protected. Sites with ecological value, coastal resources, wildlife habitat, riparian buffers, floodplains, unfragmented forest, and recreational potential are emphasized in the Green Plan. DPH provided comments to DEEP in 2007 relative to this Green Plan update, articulating the desire that public water supply watersheds and aquifer protection areas be emphasized.

The Green Plan is currently being updated, and a draft is available on the DEEP web site. According to the web site, as required by Public Act Nos. 12-152 and 14-169, new components to the State's open space acquisition strategy include:

- Development of a publicly-accessible geographic information map system and database that constitutes the state's Public Use and Benefit Land Registry;
- Identification of the State's highest-priority lands for acquisition; and
- Protection of lands owned by DEEP and other State agencies.

The "Green Plan 2016-2020" highlights the State's upcoming efforts to acquire certain lands for public use and benefit, dedicated to the following themes:

- Natural Waters and Drinking Water Resources;
- Areas Significant to the Coast;
- Natural Heritage Resources; and
- Natural Resource-based Outdoor Recreation

In particular, the Green Plan “gives priority to the acquisition of lands that serve to protect high-quality natural waters and drinking water resources. Clean water, including in our rivers, lakes, and inland wetlands, are essential to life and provide some of the richest wildlife habitat in the state. Land conservation is an important part of watershed management for protecting habitat and water quality against impacts by fragmentation, climate change, runoff pollution, and other threats.”

### **3.6. Open Space and Land Acquisitions Grant Programs**

The Open Space and Watershed Land Acquisitions Grant Program provides financial assistance to municipalities and nonprofit land conservation organizations to acquire land for open space and to water utilities to acquire land to be classified as Class I or Class II water supply property. In accordance with CGS Section 7-131d (b), grants under this program are for land purchases that meet one or more of the following criteria:

- Protects land identified as being especially valuable for recreation, forestry, and fishing, conservation of wildlife or natural resources;
- Protects land which includes or contributes to a prime natural feature of the state's landscape, including, but not limited to, a shoreline, a river, its tributaries and watershed, an aquifer, mountainous territory, ridgelines, an inland or coastal wetland, a significant littoral or estuarine or aquatic site or other important geological feature;
- Protects habitat for native plant or animal species listed as threatened or endangered or of special concern, as defined in section 26-304;
- Protects a relatively undisturbed outstanding example of a native ecological community which is now uncommon;
- Enhances and conserves water quality of the state's lakes, rivers and coastal water;
- Preserves local agricultural heritage; or
- In the case of grants to water companies, protects land which is eligible to be classified as Class I land or Class II land after acquisition.

Conditions that apply to these grants include:

- The acquired land must be protected by a permanent conservation easement requiring that the property remain forever predominately in its natural and open condition;
- Any improvements or change to the property must support the purpose for which the land was acquired; and
- The easement includes a provision that the property be made available to the general public for recreational purposes.

The DEEP evaluates proposals for acquisition grants on an annual basis. Application were most recently due in winter 2015-2016.

The Recreation and Natural Heritage Trust program was created by the State Legislature in 1986 in order to help preserve Connecticut's natural heritage. It is DEEP's primary program for acquiring land to expand the state's system of parks, forests, wildlife, and other natural open spaces. The DEEP manages the acquisition of land of statewide significance that represents the ecological and cultural diversity of Connecticut, with a focus on unique features such as rivers, mountains, rare natural communities, scenic qualities, historic significance, connections to other protected land, and access to water.

To ensure the property is compatible with the goals of the Recreation and Natural Heritage Trust Program, each potential acquisition should possess the following attributes:

- Provide high quality active or passive recreation opportunities.
- Be a resource offering conservation to a unique, natural area or protection of a species considered threatened, endangered, or of special concern.
- Correspond to an example of a prime, natural feature of the Connecticut landscape.

### **3.7. State Planning Efforts that Affect Water Management**

The State's Conservation and Development Policies Plan has a direct impact on water management in Connecticut. For example, numerous State-funded or State-assisted actions such as the extension of sanitary sewers or water mains cannot proceed if the action is inconsistent with the Conservation and Development Policies Plan and its maps. Where inconsistencies are noted, the CEPA process allows for the completion of an EIE and identification of mitigation actions that can be used to make the action possible. Nevertheless, the Conservation and Development Policies Plan creates a barrier to some actions.

To the extent that the Green Plan leads to key land acquisitions, it too can affect water management. The setting aside of lands to remain open space in perpetuity will benefit water quality in the watersheds with the land acquisitions, and will tend to eliminate or minimize the need for public water supply in areas of acquired land.

The Economic Development Strategy sets policies and objectives for spurring employment growth through existing businesses and industries as well as others that are desired. The availability of water supply will be critical for many of these businesses, as will the availability of systems to handle and treat wastewater.

The Connecticut Climate Change Preparedness Plan may lead to changes in how the State manages water. The numerous action items of the plan will need to be implemented by different agencies and departments.

Other statewide plans that are not described in this paper have the potential to affect water management. Consider the following:

- The Connecticut Natural Hazard Mitigation Plan (2014) [identified in the 1B-1 paper] sets policies and identifies actions to reduce the cycle of flood damage that occurs in the State each year. The plan describes the State's efforts to approach mitigating the effects of natural disasters on a multi-hazard basis, and furthers shifts the State from a disaster-

response driven system to one based on effective hazard mitigation planning. The plan also references the additional challenges that climate change poses to the state.

- The Drought Preparedness and Response Plan (2016, draft) [discussed in detail in the 1B-1 paper] describes drought responses that can be adopted by municipalities and long term preparations to consider such as structural (other than short-term behavior) changes to consider.
- The State's Comprehensive Energy Strategy (2013) [discussed in detail in the 1B-1 paper] offers recommendations in five major priority areas: energy efficiency, industrial energy needs, electricity supply including renewable power, natural gas, and transportation. Water conservation is a major recommendation of the plan.
- The State's "Blue Plan" [identified in the 1B-1 paper] will include an inventory of Long Island Sound's natural resources and uses and offer a spatial plan to guide future use of the Sound's waters and submerged lands.
- The Statewide Comprehensive Outdoor Recreation Plan identifies outdoor recreation issues of statewide significance and evaluates the supply of and the demand for outdoor recreation resources and facilities, which may include water-based recreation. The plan provides unified guidance to state and municipal officials as they develop and expand outdoor recreation opportunities.

### **3.8. State Land Use Approvals that Link to Water Management**

Due to Connecticut's home rule policies, municipal agencies are responsible for the vast majority of land use approvals in the State. These were discussed earlier in this paper. However, there are a handful of State land use approvals that are necessary for certain development proposals, and some of these directly link to water management. Consider the following:

- The Connecticut Siting Council is responsible for the siting of electric transmission lines and electric substations with a design capacity of 69-kilovolts or more, electric generating and storage facilities, telecommunications facilities, and hazardous waste facilities. One key consideration in the siting of generating facilities is the availability of water.
- The DEEP's Flood Management Certificate is permit that must be sought and obtained for State-funded actions (including partial funding and federal funds that are administered by the State). Examples include site developments, construction projects, infrastructure projects, etc. The certificate can only be issued if the proposed action does not increase the potential for flood damage through changes in runoff and drainage, filling in a floodplain, etc.
- The DEEP's Inland Wetland and Watercourses permit regulates activities undertaken by State agencies in or affecting inland wetlands or watercourses.
- The DEEP's coastal site plan review process occurs in parallel with the municipality's coastal site plan review process for development projects proposed in the coastal

management area. Proposals can only be approved if impacts to water quality and minimal and coastal hazards are not worsened.

- The Certificate of Public Convenience and Necessity is a three-part process administered by DPH and PURA to approve of a new public water system and its components. Through the certificate process, DPH reviews and approves various aspects of the development proposals that resulted in the need for a new public water system.
- Outside the Certificate of Public Convenience and Necessity, DPH has the authority to review and approve new well sites, treatment facilities, storage facilities, and other water works that may accompany land use proposals.

Other programs have an important role in siting decisions, although they may not be formal land use approval processes. For example, the State’s Water Quality Standards have a role in siting decisions such as landfills, and in how brownfields are addressed. The standards also restrict the types of discharges that can occur to ground and surface waters. The Aquifer Protection Program prohibits siting of land use activities that use hazardous material in the delineated protection areas.

### **3.9. Water Management Programs that Link to State Land Use Approvals**

Earlier in this paper, we noted that many of the State programs described in the 1B-1 paper have resulted in some type of linkage to municipal land use review and approvals. This is true for State land use approvals as well, except that there simply are not as many State land use approvals as there are local land use approvals in Connecticut. The land use permits listed above (siting council, flood management certificate, inland wetlands and watercourses permits for State actions, etc.) are inherently linked to water management programs described in the 1B-1 paper. For example, the flood management certificate is based on consistency with the NFIP and flood management principles whereas the State’s Inland Wetland and Watercourses permit (for State actions) is similar to a municipality’s Inland Wetland and Watercourses regulations and permitting process.

## **4. How Land Development is Trending**

The Preliminary Water Supply Assessment for each of the three public water supply management areas (PWSMAs) – West, Central, and East – was prepared in September 2016. Chapter 5 of each assessment report contains a detailed discussion of land use, zoning, population, population projections, and building permit trends for the region. The details are best left to the Preliminary Water Supply Assessment reports, but some of the key findings are listed below by region:

- The Western Connecticut PWSMA contains a great diversity of municipalities, including some of the state’s largest cities and smallest rural towns. Population projections indicate that the region will continue to see modest population growth over the next several decades. However, that population growth will be unequal. In particular, Stamford and Danbury are projected to continue to see rapid growth up to 2040. On the contrary, rural communities in Litchfield County are projected to see slower population growth. When investigating housing data over the last twenty years, several interesting trends emerge. The most notable is the unequal recovery in the housing market since the late 2000s

recession. Suburban and rural communities continue to see stagnant new home construction. While the pace of construction has increased slowly over the last few years, it is still occurring at a much slower pace than they did in the late 1990s and early 2000s. On the contrary, urban areas are experiencing a building boom and have exceeded their pre-recession pace of home construction. This is being driven by large residential construction projects in Fairfield County, notably in Stamford, Norwalk, Danbury, Shelton, and Bridgeport. Most of the development in these communities is infill development or the redevelopment of underutilized properties. If the pace of economic growth in Fairfield County continues, it is likely that this rapid pace of development will continue over the coming years.

- The Central Connecticut PWSMA contains two of the state's largest cities and many of its largest suburban towns. The population projections indicate that urban municipalities will continue to see population growth over the next 25 years. Recent growth in the core cities of Hartford and New Haven are projected to continue at a modest pace. Continuing the trends of the last 50 years, suburban communities are expected to grow at a moderate rate, adding 125,000 new residents by 2040. However, within suburban communities, growth rates are uneven. Suburban communities with developable land located on the urban periphery are projected to experience the highest growth rates. Municipalities in the Central PWSMA are largely residentially zoned with varying levels of potential buildout possible. Housing data shows a slow but steady recovery in the regional housing market in the years following the recession of 2008-2009. Urban communities in general have recovered at a faster pace than suburban communities. A handful of municipalities such as Milford, New Haven, West Hartford, and Vernon have exceeded their pre-recession permitting activity in 2015. Based on recent data, it is anticipated that in the short term, new home construction will be concentrated in a small number municipalities and will be primarily consist of multi-family housing developments.
- The Eastern PWSMA is the least urban of the three Connecticut PWSMA areas. Population projections show that the urban municipalities are forecast to grow slowly in the coming decades. Rural municipalities are also expected to continue slow, steady growth. The suburban communities will gain continuously throughout this period. Due to the recession of 2008-2009, housing construction has slowed considerably, especially within the rural areas. In recent years, the suburban municipalities have been accumulating the most new homes. Due to the cyclic nature of the housing market, it is likely that the most future growth in this region will continue to occur in the suburban areas. However, the three urban municipalities (Norwich, New London, and Groton) as a group fared comparatively well and should be watched for signs of potential greater growth.