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JUDITH CAMUSO
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To the Comprehensive Plan Committee of Casco;

Congratulations on embarking on the comprehensive planning process for Casco. A few months ago, the Municipal Planning Assistance Program at the Department of Agriculture, Conservation and Forestry provided your town with resources from several state programs, including Beginning with Habitat. The Beginning with Habitat program is available to provide your community with presentations and technical assistance on natural resources and wildlife in your town.

Completing a municipal comprehensive plan calls for a significant community effort. State agencies and partner Regional Councils are available to help. Our program – Beginning with Habitat, a voluntary conservation technical assistance program housed within the Maine Department of Inland Fisheries and Wildlife – offers strategies to help you meet the natural resource goals of your town and the minimum state requirements of the Natural Resource sections of your comprehensive plan. Increasing demand for this assistance has resulted in the creation of these letters for your convenience.

Please note that there are required strategies included in the [Comprehensive Plan Review Criteria Rule](#). Several of these that relate to the Beginning with Habitat program are identified in the *Required Elements* section in the following pages.

This letter offers two additional voluntary categories of natural resource conservation strategies – *broad* and *focused*. *Broad* strategies focus on actions that affect the town as a whole, such as documents to consider producing or administrative methods. These are strategies that Maine towns use to support their local land-use planning goals. *Focused* strategies are site-specific actions that the town might take for local natural resource challenges. If you feel these strategies do not highlight relevant/important natural resource issues and would like assistance in strategizing, please contact us.

Please feel free to reach out with any questions – we look forward to assisting you in your planning process!

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Natural Resources Strategies Casco

Natural Resources Analysis

Casco is a developing town in Cumberland County covering about 31 square miles with approximately 3600 residents. The last comprehensive plan was in 2024, and the town has a conservation commission, open space plan, and is enrolled in the Community Resilience Partnership.

Habitat loss is the top contributor to wildlife population declines both in Maine and around the globe. Frequently, habitat is lost as land is converted to human developments, though not all development patterns are equal in terms of their impact. Disperse development destroys proportionally more habitat than concentrated development, and concentrated areas simultaneously reduce strain on municipal services (less distance to deliver utilities, emergency services, etc.) and creates more economic opportunity. Town centers are formed/forming in Casco, though development is relatively diffuse through much of the town. Limiting this sprawl and concentrating development will be an important strategy in coming decades. Many of the habitat blocks are still over 500 acres in size and capable of maintaining a variety of wildlife species. The largest block at least partially within Casco is over 8200 acres in size.

While the quantity of natural areas is important, the connections between them are at least as valuable. Wildlife needs to move between habitat blocks to meet life history needs; to find new forage patches, to find mates, expand to new territories, and to respond to change. If connections between habitats are interrupted, this can result in both challenges for wildlife and people. Frequently, disruptions to habitat connectivity come in the form of roads, culverts, dams, and developments.

Roadways are a major disruptor of habitat connectivity, where animals may be deterred from crossing roads or may be hit by vehicles. Collisions with vehicles also represent an economic and public safety concern, where Maine spends an estimated \$300 million per year on wildlife-vehicle collisions (WVCs) due to damages to vehicles, injuries, and fatalities. Casco has recorded 363 WVCs that have resulted in insurance claims since 2003 (see [Maine DOT Public Crash Query Tool](#)). Accordingly, this data does not include species that are too small to result in damage/injury, such as reptiles, amphibians, birds, invertebrates, and small mammals. Unfortunately, these species can be hit at such high rates that local declines or extirpations can occur, and many drivers are unaware of the impacts they may be having. Poland Spring Road, Meadow Road, and Roosevelt Trail all have high concentrations of WVCs.

The most effective means at reducing collisions comes in the form of wildlife crossing structures (usually underneath roadways) that incorporate guide fencing to funnel wildlife to the crossing. Altering habitat to remove attractants (e.g. salt pools that may attract ungulates, nesting habitat, forage locations) and reducing driver speed (narrow roadways, speedbumps, reduced speedlimits, etc.) are also effective for reducing collision probability. Signage is generally considered ineffective, though reactive signage (e.g., flashing lights during high-probability times or placing signs for only parts of the year) may boost effectiveness.



Aquatic connectivity also carries great importance for wildlife and people. Species like brook trout require connected waterways to respond to changing conditions (temperature changes, drought) and find mates. Indeed, Casco has many priority brook trout conservation streams. Frequently, these connections are interrupted by culverts that are too small, perched too high, transporting water at too high a velocity, or are crushed. Upgrading these culverts to [Stream Smart](#) designs can restore connectivity for aquatic species. Additionally, Stream Smart culverts are substantially more resilient to flooding; winter storms of 2023-2024 highlighted the need to incorporate these structures to protect infrastructure and communities and washouts have not yet been recorded with structures that meet Stream Smart standards. Funding for such projects can be found [here](#). Thirty-three public culverts have been identified in Casco, with thirteen forming a barrier, eighteen forming a potential barrier, and two forming no barrier. Three impassable dams are also present. This information and more can be accessed through the [Maine Stream Habitat Viewer](#).

Sebago Lake is a critical resource for the state and for the region. As Maine's deepest lake with cool and clean water, multiple coldwater fisheries persist here, including brook trout, landlocked salmon, and lake trout. Given its proximity to southern Maine, size, and fishery, the recreational use of Sebago Lake is high and measures to protect the lake will not only protect its wildlife but have major economic benefits. Pleasant Lake and Thomas Lake also both provide coldwater fisheries, and protecting their water quality is also important.

A variety of rare species and critical habitats exist in Casco. Great Blue Heron (State Special Concern) are well-known to most Mainers, but this species is unfortunately declining in part due to its sensitivity of nesting locations. A nesting colony is known in a wetland in central Casco, and minimizing disturbance around this area will help keep populations secure. The Scarlet Bluet (State Special Concern) and New England Bluet (State Special Concern) are two species of damselfly (dragonfly relatives) that live in wetland habitats and have been recorded in Owl Pond. These species are highly sensitive to water quality as most of their lives are spent as aquatic nymphs. Upon metamorphosis into adults, they require emergent freshwater vegetation to climb out of the water and begin foraging/looking for mates during their one season as adults. The Pygmy Snaketail (State Special Concern), a species of dragonfly, is found along the Crooked River. Similarly, this species requires clean water and intact upland habitats for foraging and breeding. All of these species benefit from enhanced riparian buffers that help maintain habitat and preserve its quality, reducing impacts from pollution and other disturbance.

Two types of Significant Wildlife Habitat (SWH) are known in Casco. SWHs are critical wildlife habitats that are regulated under the Natural Resources Protection Act and administered by the Maine Department of Environmental Protection. In Casco, this includes Inland Waterfowl and Wading Bird Habitat (IWWH) and Significant Vernal Pools (SVP). IWWHs are wetlands that provide important habitat for species like ducks, herons, and many other wildlife species as most wildlife needs to access water at some point in their lives. Since quality of the wetland can be impacted by activities in the surrounding uplands, activities within 250 feet of the wetland are regulated. Eight IWWHs are present in Casco.



Vernal pools are small, temporary bodies of water that fill with water in the spring and are dry by the end of summer. The temporary nature of these pools makes it difficult for many aquatic obligates such as fish to survive in these pools, but some specially adapted species can thrive in these habitats. Species like Wood Frogs, Spotted Salamanders, Blue-spotted Salamanders, and Fairy Shrimp depend on these habitats for their persistence. In some cases, a vernal pool may meet criteria to receive designation as significant. Note that not every vernal pool can become significant; only 1/5th of surveyed pools receives significant designation based on various hydrologic and biologic data. SVPs are wetlands that also regulate activities within 250 feet of the pool, but a 100-foot no-build buffer will also be included beginning in 2026. Seven SVPs have been recorded in Casco. Because SVPs are difficult to detect, it is possible more are present.

Deer Wintering Areas (DWAs) are another important wildlife habitat that is identified in Casco. During harsh winters, white-tailed deer require access to locations that provide forage, reduced snow depth, and shelter. Patches of coniferous forest, especially with cedar and hemlock, can provide such conditions and increase winter survival rates. These habitats are considered “candidate” significant wildlife habitats, as DWAs have been proposed for inclusion but have not finalized rulemaking. Four DWAs have been identified throughout Casco.

Five rare plants and two rare/exemplary natural communities have been identified in Casco. Four of these (Dry Land Sedge, State Special Concern; Summer Grape, State Threatened; Purple Clematis, State Special Concern; Fern-leaved False Foxglove, State Special Concern) are found on Rattlesnake Mountain. The extensive dry, rocky habitat creates conditions that are relatively uncommon in Maine, resulting in unique species compositions. Indeed, the area also includes two rare/exemplary natural communities; an Enriched Northern Hardwoods Forest and an Oak-Pine Woodland. Like the rare plants, slopes create the conditions that make these communities possible Hollow Joe-pye Weed (State Special Concern) occurs along Mayberry Hill Road in Casco.

Occasionally, concentrations of rare species and critical habitats can occur in such a congregation that they are important on a statewide scale. These areas, known as Focus Areas of Statewide Ecological Significance, are delineated spaces defined on biological criteria rather than political ones (e.g., town line, parcels, etc.). As a result, their boundaries frequently overlap with other municipalities and create opportunities for cooperative and regional conservation efforts. A portion of the Jugtown Plains Focus Area enters Casco, and includes Harrison, Otisfield, and Naples.

Required Elements

The strategies below are some of those that relate to the Beginning with Habitat Program, though are not a complete list of required comprehensive plan elements. The complete list can be found here: [Comprehensive Plan Review Criteria Rule](#).



- *Involve all relevant people.* Everyone is impacted by your local comprehensive plan and every effort should be made to include as many voices as possible. Regional Councils can help with engagement and outreach techniques.
- *Integrate your inventory.* How can you protect your natural resources if you don't know what you have or where it exists? Beginning with Habitat offers tools and data to help you learn where your important and critical natural resources are, from aquifers to rare plants and animals. These data can be provided in a digital or print format and are also available online in map viewers. [This is where most towns encounter the greatest challenges.](#)
- *Future Land Use.* One of the most significant elements of a comprehensive plan is a future land use plan and map, where districts are identified for limited or future growth. The Future Land Use Plan (FLUP) and Map provide the foundation for a zoning ordinance if the town chooses to develop one. The FLUP can include overlay districts to protect certain features, support energy production, or promote more housing. The FLUP can also expand upon or fine-tune the minimum requirements (see [mandatory state subdivision regulations](#)) of a municipal subdivision ordinance. For instance, a subdivision ordinance could provide density bonuses for more open space reserved, smaller minimum lot sizes, or connectivity among open spaces on adjoining properties.

Broad Voluntary Strategies

- *Collaborate with Beginning with Habitat.* Beginning with Habitat is a free service available to towns to assist in conservation planning projects, including open space planning, inventorying, site visits, presentations, mapping, and other projects.
- *Work with a local land trust.* Land Trusts acquire fee and easement conservation lands that are important for wildlife and for people. Loon Echo Land Trust and the Forest Society of Maine's service areas include Casco.

Focused Voluntary Strategies

- Attempt to maintain a) large patches of habitat and b) keep them connected to support a variety of wildlife. Help private landowners access incentives to invest in long-term stewardship of their property. Beginning with Habitat's private landowner biologist is available to help with these measures and provide tools for management.
- Incorporate [living shoreline](#) practices for shoreline stabilization projects. These projects reduce deflection of wave action to neighboring properties, create habitat rather than destroy it, and can effectively protect property from erosion.
- Consider measures that will improve aquatic connectivity and public safety, like replacing culverts with Stream Smart crossings when the time for replacement comes.
- Concentrate development to areas where development exists through zoning and volunteer strategies (see below). Reducing the spread of development reduces the strain of municipal services, creates more viable economic centers, and reduces impacts to habitat.
- Incorporate creative strategies to protect natural area and concentrate housing to growth areas. Methods like transfer development fees (developers pay an extra fee to increase



density in growth areas; the fee is used to purchase conservation land in rural zones) and conservation and limited development projects (where rural land is subdivided and sales of the subdivisions are used to fund acquisition and protection of the larger undeveloped parcels, frequently done in conjunction with land trusts) are effective for improving housing stock while protecting large amounts of land.

- Coordinate with Beginning with Habitat and other agencies/partners for site visits to survey lands and determine what resources may be present.
- Consider revising the town's shoreland zoning ordinance to enhance protections for wetlands and riparian areas. Possibilities to consider include incorporating buffers for small streams and wetlands in shoreland zoning, increasing forested buffers to maintain water quality and provide movement corridors for wildlife, and more. See [Maine Audubon's guide on shoreland habitats](#) or reach out to Beginning with Habitat staff for more information.
- Incentivize landowners to keep their land as open space through tree growth or open space current use tax programs.
- Collaborate with Otisfield, Naples, and Harrison to conserve the Jugtown Plains Focus Area.

For more information and ideas, contact us or visit our municipality page:

<https://www.maine.gov/ifw/fish-wildlife/wildlife/beginning-with-habitat/municipalities>

