

Designing the Conservation Focus Areas (CFAs)

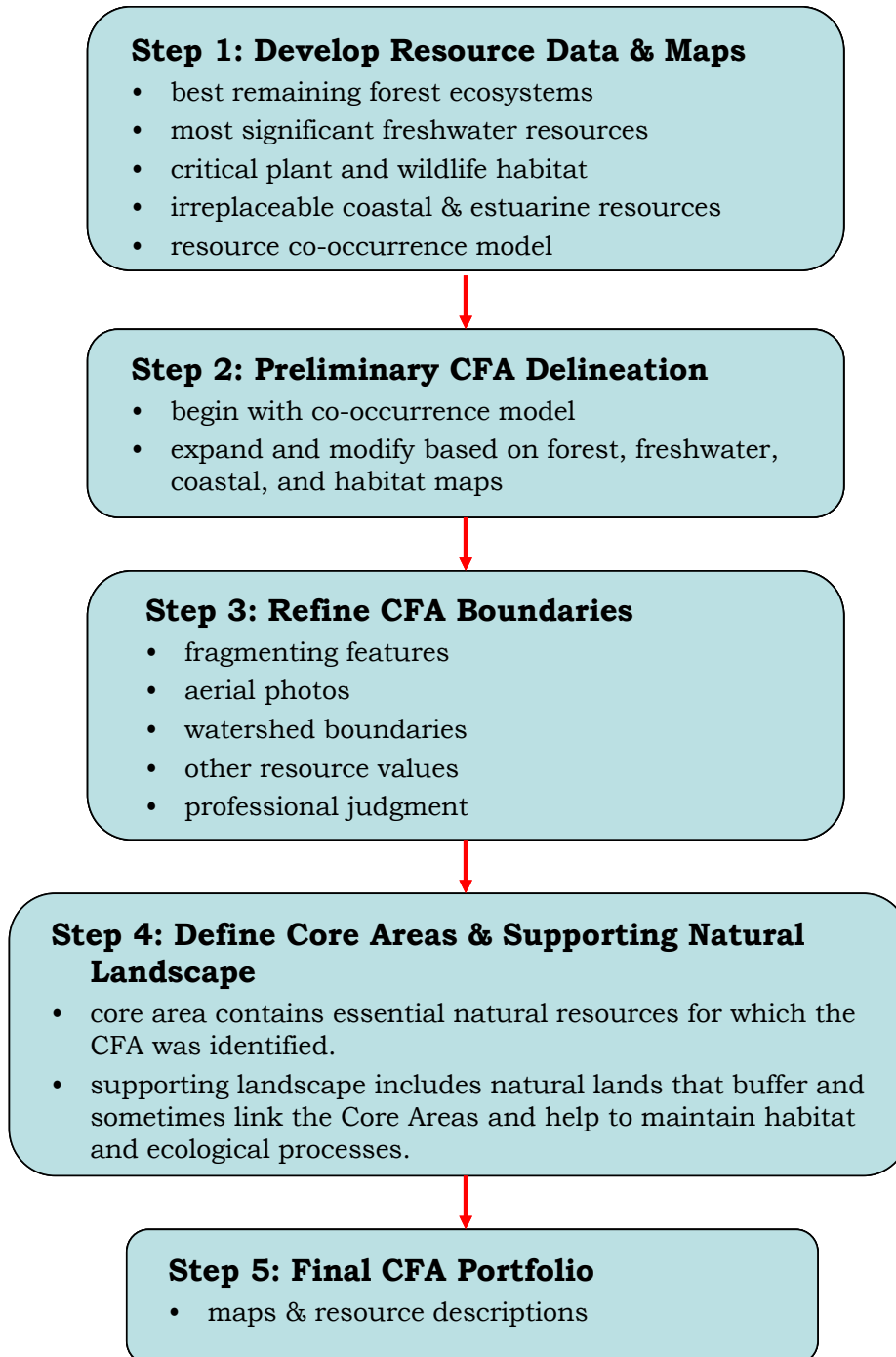


Figure III-1. Schematic overview of the Conservation Focus Area design process.

C. Delineating the Conservation Focus Areas

We identified 75 Conservation Focus Areas through a systematic, state-of-the-art analysis of a wealth of natural resources data. Collectively, these areas comprise approximately 190,300 acres, or 36% of the watershed. A reduced-scale version of the Conservation Focus Area map is included as Figure III-6 at the end of this Section.

1. Definitions

A **Conservation Focus Area** is an area that is considered to be of exceptional significance for the protection of living resources and water quality in the coastal watersheds. In general, focus areas occur in places where multiple important natural resource features co-occur to an extent that is significant from a whole-watershed perspective. Occasionally, focus areas emerged that contained only one or two important features, because the features were considered truly irreplaceable (e.g., habitat for a globally rare species or an intact coastal saltmarsh).

Each Conservation Focus Area is comprised of a **Core Area**. Some Conservation Focus Areas also include **Supporting Natural Landscape**.

- The **Core Area** is the contiguous geographic area that contains the primary natural features and habitat for which the Conservation Focus Area was identified. Core Areas contain essential habitat for plant and wildlife species of concern and exemplary natural communities, highest quality small watersheds and other vital freshwater features, irreplaceable coastal resources such as estuarine shoreline, and the best remaining examples of intact forest ecosystems. These unfragmented areas, which are wholly or almost entirely undeveloped, represent the highest priority for conservation and protection.
- The **Supporting Natural Landscape** includes the surrounding area that helps to safeguard the Core Area while also providing habitat for many common species. Supporting Natural Landscape contains buffer around the Core Area, undeveloped watersheds, and undeveloped forest blocks, helping to maintain ecological processes upon which habitats and species depend. Conserving supporting landscapes will embed the Core Areas in a minimally fragmented and minimally disturbed matrix, thus helping to maintain the viability and quality of the Core Area natural features over time.

2. Delineation Methodology

To delineate Conservation Focus Areas, we generally followed the approach outlined in Figure III-1 (shown above). Based on our judgment and the CELCP program guidance, we used the following principles and guidelines for identifying important areas:

- Represent the full range of terrestrial, freshwater aquatic, and coastal/estuarine natural communities that characterize the coastal watersheds at sizes, configurations, and conditions sufficient for their long-term viability.
- Represent the dominant (or "matrix") forest natural communities of southeastern New Hampshire at large enough scales and configurations to support forest interior wildlife and to absorb natural disturbance processes over time.
- Represent the range of physical features found in the watershed, including bedrock types, soils, elevations, and slopes. Where possible, include a broad range of environmental gradients (e.g., elevation, soil moisture, exposures) to provide for a diversity of habitat conditions, range of natural disturbances, and opportunity for evolution and migration in response to climate changes.
- Include known occurrences of rare species and exemplary natural communities, especially those occurrences highlighted as priorities by NH Natural Heritage Bureau ecologists.

- Consider the habitat needs of a range of animal species, particularly those known to require or thrive under mature and remote ecosystem conditions.
- Identify the best opportunities for maintaining or restoring very high quality small watersheds, and also areas that significantly influence water resources such as riparian zones, large wetland complexes, and headwater stream networks.
- Consider existing development, roads, and other infrastructure in order to avoid the ecological impacts of fragmentation, and to avoid conflicts with other land uses and management regimes. Also consider landscape condition, especially the degree of natural land cover, fragmentation, and proximity to other reserves.
- Look for overlap with other significant public values (such as drinking water protection zones, recreational resources, prime agricultural lands). These resources are important, but they were not the primary filters used in this plan because our intent was to identify the most important areas for living resources and water quality.
- Be well justified and scientifically defensible.

We started with the results of the resource co-occurrence model, using the analysis that highlighted areas of the watershed congregating around the top 20% of co-occurrence scores. We then scrolled through each principal resource map and attempted to capture the extent of the most important natural resources occurring in the area. For example, beginning with a particular “top 20%” co-occurrence polygon, we would expand and draw the boundary to include known significant habitat for rare species, a coastal salt marsh complex, a high value forest ecosystem, or a Tier 1 high quality stream watershed. This resulted in a preliminary conservation focus area.

Next, we carefully refined boundaries by looking very closely at fragmenting features (e.g., public roads, development), recent aerial photography, watershed boundaries, and other resource values (e.g., farmland). This painstaking, detail-oriented procedure often resulted in contractions of preliminary focus area boundaries to better reflect the reality of current land uses. We particularly sought to avoid including existing development (such as a house or other building) in conservation focus areas, wherever possible.^a

Finally, we delineated the Core Area and, where appropriate, the Supporting Natural Landscape within the focus area. In delineating the core, we attempted to include unfragmented or largely intact portions of the principal natural features for which the focus area was identified. For example, if a high co-occurrence score was driven by the presence of a high value forest ecosystem and a globally imperiled plant species occurrence, we sought to capture both in the core area. If a high quality stream watershed, important stream reach, and significant wildlife habitat were the principal features, we drew the core area boundary to include the greatest unfragmented extent of these resources. Supporting natural landscape consists primarily of relatively unfragmented forest and farm lands around the core area, and also includes areas that appear to be good opportunities to maintain connectivity between conservation focus areas.

In general, conservation focus areas closer to the coast consist primarily or solely of core areas. It was more difficult to identify supporting natural landscape in the lower watersheds because the landscape is much more fragmented.

^a In some cases, it was impractical to carve out existing development from a focus area, and so the development remained inside. We are not intending to suggest, however, that such development be removed from the landscape.

3. Limitations of the Data

This conservation plan was developed using the best data available to members of the planning team. Based on the data described above, we know that New Hampshire's coastal watersheds contain a wide range of significant ecological resources, and we have a pretty solid understanding of the location and status of certain resources. Nonetheless, our knowledge of the distribution and status of these resources is incomplete.

We acknowledge the limitations of existing data, and offer the following considerations for users of this plan:

- The plan should not be considered a definitive statement of the presence or absence of significant ecological resources at given locations. We are committed to increasing our knowledge of the distribution, abundance, and quality of conservation target occurrences in New Hampshire's coastal watersheds, and we will use that knowledge to guide and refine our goals and strategies.
- The plan should be considered a *first iteration*, rather than the "final say." We fully expect to supplement and otherwise revise the plan over time, in response to new information.
- We do expect that additional important areas could emerge as a result of new information.
- We do not expect that future information will suggest the elimination of any of the important habitat areas identified in the plan, except perhaps in the event that shifting human land uses destroy or significantly degrade an area. The conservation focus areas are well justified, though new information may enable us to adjust boundaries, connectivity zones, and other attributes.

Notwithstanding acknowledged data limitations, we believe this plan to be a credible first iteration based on sound scientific data, expert consultation, and sophisticated GIS modeling and conservation planning tools.