

Natural Environment – Minimum Viable Areas Group Meeting Notes of October 31, 2007, MVC Offices

*Present - Members: Tom Chase, Dick Johnson, Brendan O'Neill, Matt Pelikan, Julie Schaefer,
Present – MVC Staff: Mark London, Bill Veno, Chris Seidel*

The objective is to look at habitat protection as part of identifying natural resource enhancement areas. Habitat preservation is to sustain all native species, resident and migrant, not just rare flora and fauna.

Methodology: At the previous meeting, the group started working on identifying critical habitat with two complementary approaches.

- 1) Calculation of minimal size needed for each ecosystem based on the Minimum Viable Area (MVA) needed to support the most space-demanding species.
- 2) Mapping areas of the Vineyard which are or could conceivably be part of continuous habitat, including developed areas where remediation and some undevelopment would be required.

Preliminary estimates suggest that the two might well come out to a similar size, in the order of magnitude of 20,000 to 25,000 acres or about a third of the Island. This would allow including other uses while maintaining the minimum area needed for sustaining habitat.

Individual members' homework assignment was to start mapping. The three members who prepared maps (Dick, Matt and Debra) came up with very similar groupings of areas, although some excluded smaller clusters of housing than others.

Criteria: Criteria for inclusion in the habitat area.

- Underlying geology – to help delineate ecosystems.
- Size – more is better.
- Shape – minimize edges.
- Connections – along natural plant and animal corridors, such as streams, is best.
- Vegetative cover – areas of oak are not such good habitat for rare species, whereas scrub oak is very good.
- Surrounding landscape.
- Include existing conservation lands.
- Possibly using major roads to delineate.
- Existing development – avoiding intense housing density.
- Priority Habitat Map – especially to decide questionable areas.

Dick considered major roads as natural delimitations for habitat area, but after discussion, this would appear to be not such an important criterion as most species on the Vineyard can cross or fly over a road with little difficulty. Airborne species include birds, moths, and pollinators. Roads could be a problem for spotted salamanders and box turtles; these might require wildlife underpasses.

It is important to have a buffer around the primary habitat area, to protect the core from human activity such as kids and cats.

What would the criteria be to differentiate additional core areas versus supporting areas? When does the presence of houses inhibit an ecosystem so that they should be excluded from the designated habitat area? This varies by species and is related to the vegetated cover around homes. The presence of homes might limit the possibility of using fire as a restoration technique.

Matt raised the possibility of using critical watersheds to map habitat which should be protected. Mark suggested that there were so many other factors involved in water quality, such as density and the use of various wastewater treatment systems, that this would be difficult. It was agreed that we would leave out water quality considerations for now.

Ecosystems: The Vineyard could be divided into the following ecosystems.

- Outwash Sandplain,
- Western Morainal Forest,
- Maritime Heathland,
- Eastern Moraine,
- Aquinnah Moraine Highlands,
- Sengekontacket Outwash Plain,
- Beaches.

Patch Size / Minimum Viable Area: The main goal is to create a large core at least as large as the MVA.

Many small patches support rare species and we should not undervalue their preservation. Though they might not support as broad a range of species as an area of minimum viable area, supporting a smaller range of species is still very worthwhile. Even a small conserved area can expand over time.

Some bird species need to see a large area, but will only actually use a small patch. So an open space with some protected habitat adjacent to farmland could be okay.

Connections between patches: It is desirable to connect habitat patches to each other and especially to the central core. These connections would allow smaller areas to work together as one larger one which could support more species. Connections would help disperse species out from the core to other areas. It would also facilitate the evolution of the areas by allowing species to move from one to the other, for example to adjust to climate change producing wetter winters and drier summers.

There should be a connection between the Western Moraine and the Sandplain habitats. Even though they are different ecosystems, connecting the habitats would allow for transit of communities and transfer of species. 60-70% of the birds in the Moraine are also found in the Sandplain.

However, connections are not essential; disconnected smaller patches are still useful. A key species on the Island is moths, which can travel from one small patch to another almost irrespective of what is in between.

Implementation: There is no way to protect enough land through outright acquisition or conservation restrictions. The challenge will be to seek a certain degree of habitat protection in lower-density residential areas through a variety of other actions such as:

- Zoning regulations or DRI guidelines requiring a percentage of habitat protection when a property is developed; something along the lines of having properties larger than an acre in the identified habitat area having to preserve 75% of the property as native habitat.
- Working with homeowners using education and/or management agreements to restore native habitat on already developed properties,
- Undevelopment.

Someone developing a property is generally willing to meet standards, such as incorporating habitat protection; they just want clear development rules. It will probably be more challenging to get existing homeowners to change their landscaping to restore habitat areas.

Shoreline Areas: Tom suggested that the shoreline areas below the 10-foot elevation be looked at as transitional buffers. Since these areas might be lost to sea-level rise, it may not be cost-effective to acquire them to achieve long-term conservation goals. However, Mark pointed out that the sea-level rise projected in the latest report of the Intergovernmental Panel on Climate Change is closer to only a foot in the next century, and we shouldn't undervalue the potentially critical habitat between elevations 1' and 10'.

Everyone who has not worked on the map will try to do so before the next meeting.

Next Meeting (undetermined)

The meeting was adjourned at 1:45

Notes prepared by Bill Veno and Mark London