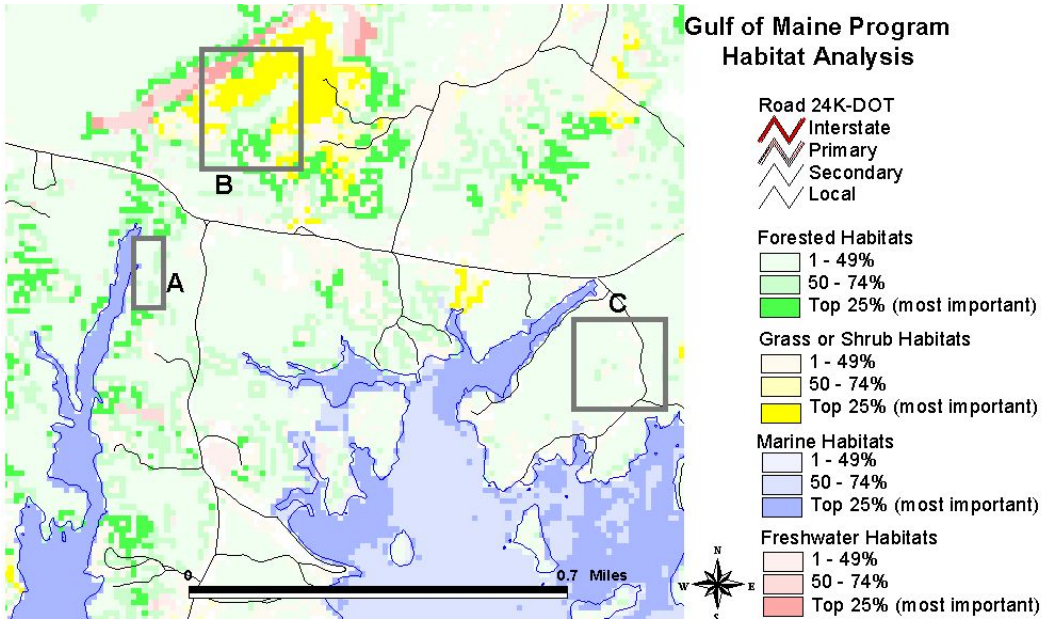
Understanding Your Maps and Habitat Score Table

Step 1: Review your land cover map.

It is important to keep in mind that much of the habitat mapping project relied on environmental data sets, such as water depth, soil type, or land cover. Due to a variety of factors including the complexity of vegetation analysis and changes in land cover over time, land cover mapping is never 100% accurate. For this reason, we've supplied you with a land cover map for your area. Please compare the landcover map with what you see on the ground; if the landcover is incorrect, the mapped habitat will be not accurately reflect the true habitat types that are in the area. On the other hand, if the landcover maps are accurate, you can be relatively confidant that the property provides habitat for the species identified. Please note that even though we may predict and map habitat it may not be currently utilized by a species.

Step 2: Review your habitat map.

We have included a sample map below, along with a discussion of its features. Reviewing this sample map will help you interpret your own map.



The map identifies potentially suitable habitat in four general habitat types (marine, freshwater, grassland/shrub, and forested). Habitat values for each of these types are shown in three numerical classes (good, better and best) with the following divisions:

"good" habitat (1 – 49%)
"better" habitat (50 – 74%)
"best" habitat (top 25%)

The comments below interpret habitat values for the following three parcels identified on the sample map:

Parcel A – Shallow intertidal mudflats and near-shore sub-tidal waters provide great habitat for many of the species we included in this analysis. Protecting this parcel would provide an upland buffer adjacent to high value coastal habitat, which is important in limiting habitat disturbance from human activities and preventing water quality degradation from non-point source pollution.

Parcel B - The intense yellow areas in Parcel "B" identify grassland and shrub habitat which can be important for declining bird species such as grasshopper sparrows, field sparrows, and upland sandpipers. As forests have regenerated in the Northeast, grasslands are disappearing, along with species that depend on grassland habitat.

Permanently protecting Parcel B maintains existing forested habitats (green) and protects freshwater habitats (pink). While larger patches of highest-value forest would be even better, the adjacent intermediate-green areas provide protective buffers for forest interior species.

Freshwater wetlands and open waters (rivers, ponds and lakes) in Parcel B offer habitat for anadromous fish, and the adjacent riparian zone likely serves as a travel corridor for upland wildlife.

Parcel C - This parcel includes an area with low to moderate value forested habitat for the species included in our mapping project. However, this parcel may have value for other species of interest to other agencies and groups (e.g., state fish and wildlife departments, natural heritage programs, town government, land trusts and watershed associations).

Step 3: Review your habitat scoring table.

We have included a sample table along with a discussion of its features. Reviewing this sample table will help you interpret your own table. The table is a numerical way of expressing what you see visually on the map and provides detail on specific habitat values of the property for each species. This sample table includes only Raptor and Shorebird species. Your table presents the habitat scores for all 91 species in the habitat analysis, and sums them in several ways. In addition, this sample table highlights only the most important rows in the table that you will need to interpret results. No one number "tells it all," but the combination of numbers can be a useful tool for understanding and comparison.

Sample Habitat Score Table

Any species with scores above 0 has potentially suitable habitat in the parcel or area. In this example only Raptors and Shorebirds are shown. Your table will contain rows for 91 species and 4 rows for extended fish values. Certain fish (shad, salmon, alewife, blueback herring) which make use of smaller rivers, streams, and ponds are likely to be strongly affected by conditions of the riparian lands and tributary streams feeding into spawning and nursery areas. The extended fish values at the bottom of your chart (but not the chart below) reflect the importance of those areas in maintaining water quality, flow and temperature for these species.

Habitat scores are ranked on a 0 to 10 scale, with 0 = unsuitable and 10 = optimal for that species.

Relative score for the parcel, where 1 is the average score for the species for the entire Gulf of Maine watershed. The larger the number, the more remarkable it is for the species. This table shows particularly significant habitat for many species in the analysis.

	Species	Score											Total Acres with Habitat	Sum of Habitat Unit	Average Habitat Unit Score	Relative Score
		Acres of habitat at the following relative scores (on a 0 to 10 scale, with 0 = unsuitable and 10 = optimal for that species)											Acres in parcel having non-zero habitat values	Sum of [# of acres X respective cell scores] for entire parcel	Sum of habitat units divided by total acreage	Relative score for the parcel, where 1 is the average for the
		0	1	2	3	4	5	6	7	8	9	10				
Raptors	Northern Goshawk	141.4														
	Northern Harrier	58.7					22.7					60.0	82.7	713.5	5.0	11.9
	Peregrine Falcon, eastern	141.4														
	Red-Shouldered Hawk	141.4														
	Short-eared Owl	61.4				68.4			10.7				80.1	352.5	2.5	58.4
Shorebirds	American Oystercatcher	41.4	100.1										100.1	100.1	0.7	94.6
	American Woodcock	109.4		2.4	7.3	2.7	3.3	6.2		9.1		0.9	31.9	173.0	1.2	0.5
	Black-bellied Plover	41.4	89.0	11.1									100.1	111.2	0.8	37.7
	Buff-breasted Sandpiper	130.1	2.7		8.7								11.4	28.8	0.2	1.3
	Common Snipe	141.4														
	Hudsonian Godwit	130.3		11.1									11.1	22.2	0.2	16.2
	Killdeer	121.2		11.1								9.1	20.2	113.2	0.8	1.3
	Least Sandpiper	41.4		100.1									100.1	200.2	1.4	59.1
	Purple Sandpiper	141.4														
	Red Knot	41.4	89.0	11.1									100.1	111.2	0.8	56.9
	Ruddy Turnstone	130.3	11.1										11.1	11.1	0.1	6.5
	Sanderling	130.3		11.1									11.1	22.2	0.2	10.7
	Semi-palmated Sandpiper	41.4	89.0	11.1									100.1	111.2	0.8	36.4
	Short-billed Dowitcher	41.4	89.0	11.1									100.1	111.2	0.8	43.4
	Solitary Sandpiper	130.3	11.1										11.1	11.1	0.1	1.8
	Upland Sandpiper	141.4														
	Whimbrel	32.7	8.7	100.1									108.8	208.9	1.5	21.3
	Baltimore Oriole	105.6										35.8	35.8	358.0	2.5	3.8

In this example, 22.7 acres of intermediate habitat and 60.0 acres of optimal habitat were mapped for the Harrier, resulting in a total of 82.7 acres of habitat in the parcel.

American Woodcock has 0.9 acres of optimal habitat and a relative score of only 0.5. On a relative scale, this parcel is not an outstanding value for the species since the relative score is below 1.

Grey cells indicate the habitat model for this species didn't include these values. Refer to the back of your habitat scores table for more information.

Step 4: How to use this information for pursuing federal funding for habitat protection:

Now that you have examined the mapping results, you may be interested in pursuing conservation options. Please remember that we have only provided information on the 91 species of particular interest to the U.S. Fish and Wildlife Service. There may be other important reasons for you to pursue land protection through other state, local or private options. If your property appears to have a high value for U.S. Fish and Wildlife priority species then you may wish to pursue federal funding for habitat protection.

1. Review the fact sheet, *"Federal funding opportunities for habitat protection and restoration."*
2. Consider whether or not the land you are interested in protecting would be likely to be competitive in applying for federal funds. U. S. Fish and Wildlife Service funding sources for land protection are limited and grants are highly competitive nationwide. These federal grants are time-consuming to prepare - carefully consider the following before applying:

   a) Habitat Values
      - Does the property provide particularly outstanding habitat values for wetland-dependent migratory birds, migratory fish and/or federally threatened and endangered species?

   b) Land Protection
      - What is the size and location of the property, and how does that relate to its habitat values? (In general, the larger the parcel, the better).
      - Is the property adjacent to other protected conservation lands? (In general, protecting land adjacent to already protected habitat is desirable).
      - Is nearby land developed? (Nearby development suggests imminent threat and the need to protect what remains. On the other hand, nearby development may have already compromised the habitat values of the land you seek to protect).
      - Are there opportunities to protect additional lands? (In general, grants are most appealing if you can demonstrate how this land protection effort will trigger additional land protection).
      - Is the land proposed for acquisition adequately buffered to protect its habitat values over time?

   c) Stewardship
      - Will the property be securely protected and managed by an organization with a verified track record of having the capability to protect the property for its fish and wildlife values in perpetuity? (Funders want to ensure that the organization protecting land can demonstrate long-term stewardship capabilities).

   d) Matching Funds
      - Are you able to raise the required non-federal matching funds to support the proposal?

3. If you think that the land you are interested in protecting would rank favorably by these standards, please call our office to discuss your project. For high value properties, we may be able to provide you with technical support to help prepare your land protection proposal.

You may also wish to check with state agencies (e.g. Maine Department of Inland Fisheries and Wildlife, and the Maine Natural Areas Program, etc.) to learn of the "Beginning with Habitat Initiative" and their knowledge of the property. They may have data on habitat values that they can share with you, and they may also have ideas or funds to support your interest in land protection.

You are also welcome to submit applications on your own and use information from our habitat analysis to support your proposal. Refer to the last page of the "Funding opportunities" fact sheet for information on how to seek other foundation grants for land protection in Maine.