

## Restoration Center Northeast Region Fish Passage Priority Watersheds

The Restoration Center Northeast Region fish passage priority watersheds were developed by first prioritizing Northeast Region diadromous species and then mapping these species' current and historic distributions across the region as summarized below.

Species priorities were determined by Restoration Center Fish Passage Strategy Team members and Northeast Region fish passage staff at an April, 2011 workshop in Gloucester, MA. Attendees considered several factors for their ability to discriminate, and subsequently prioritize, species. Workshop participants agreed on six factors that best reflect Restoration Center objectives and priorities:

- Fisheries management status
- Protected status (federal and/or state)
- Commercial importance
- Recreational importance
- Public interest
- Importance of barrier passage for species' restoration

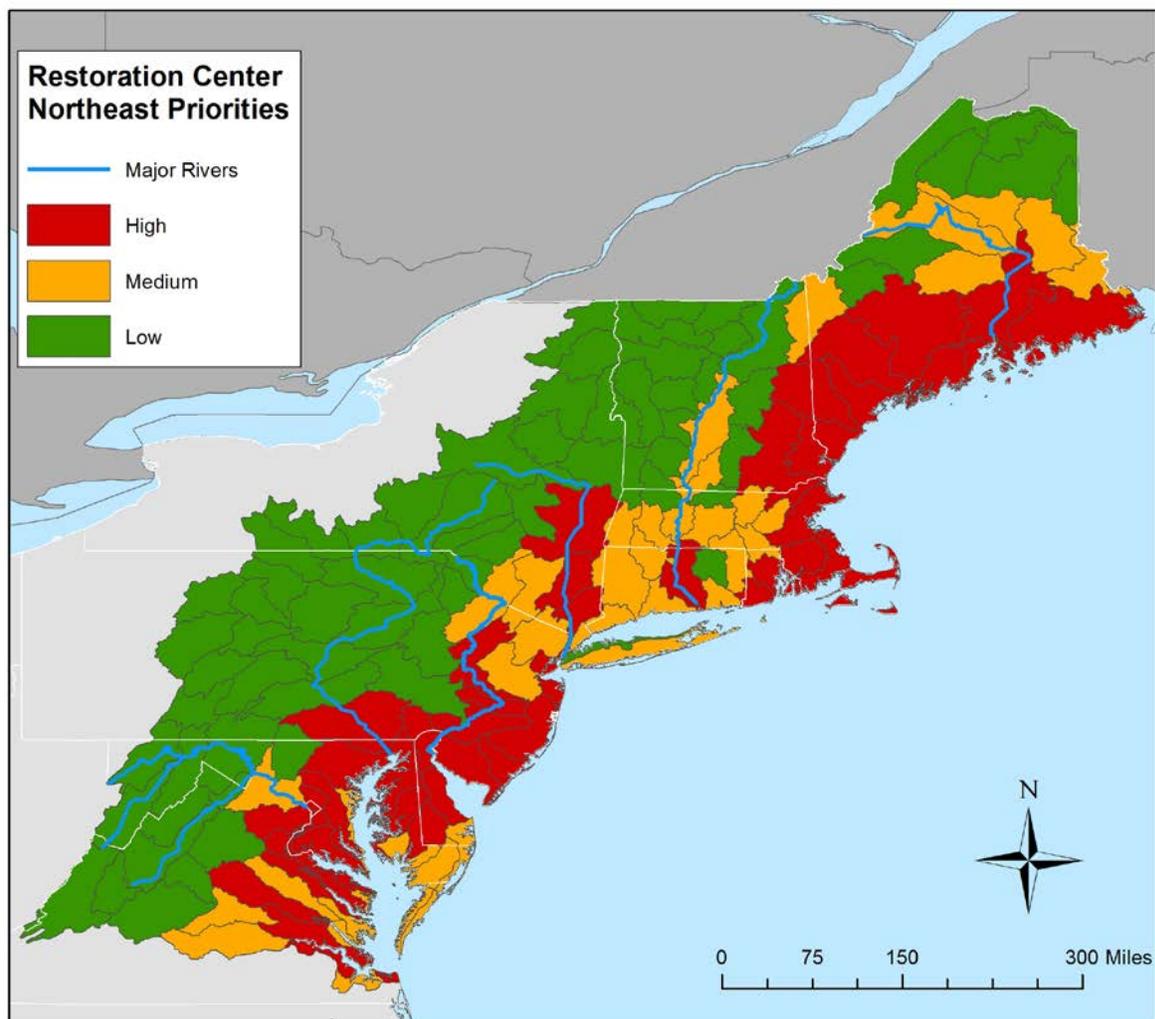


Figure 1: Restoration Center Northeast Region fish passage priority watersheds.

Table 1 shows how each of these factors was scored from 0 (no importance) to 3 (high) for a given species and summed to give a Total Priority Index (TPI) score. TPI scores were sorted from largest to smallest and all species were subsequently assigned categorical priority ranks of high, medium, and low that were represented in later analyses as weighting values of 3, 2, and 1.

The basic premise of the Restoration Center Northeast Region fish passage prioritization is that watersheds with greater numbers of priority species are higher priority. For each Hydrologic Unit Code-08 (HUC 08) watershed (Figure 1), the weighting values for each species occurring there presently or historically were summed. The total co-occurrence score for each HUC-08 watershed could range from 0-27 *because there are no watersheds where all species occur*. We then binned the total co-occurrence scores as evenly as possible to assign final geographic priorities as high (19-27), medium (10-18), and low (0-9).

Sensitivity analyses showed that our watershed priorities are not particularly sensitive to how we weight the six factors for prioritizing species (Table 1). Nor do small numbers of species heavily influence the results. Co-occurrence of priority species is the primary influence on the geographic priorities. Highly valuing watersheds that have higher numbers of priority diadromous species allows the Restoration Center to more efficiently improve conditions for greater numbers of our trust resources.

Table 1: Restoration Center Northeast Region diadromous species prioritization matrix.

	Fisheries Management Status	Protected Status	Commercial Importance	Recreational Importance	Public Interest	Passage Importance for Species' Restoration	Total Priority Index	Priority	Weight
American Shad	3	2	3	3	3	3	17	High	3
Atlantic Salmon	3	3	1	3	3	3	16	High	3
Alewife	3	2	2	2	3	3	15	High	3
Blueback Herring	3	2	2	2	3	3	15	High	3
Striped Bass	3	1	3	3	3	1	14	Med	2
American Eel	3	2	3	1	2	2	13	Med	2
Atlantic Sturgeon	3	3	2	1	2	1	12	Med	2
Hickory Shad	3	1	1	2	2	3	12	Med	2
Rainbow Smelt	2	2	2	2	2	2	12	Med	2
Sea-run Brook Trout	2	1	1	2	2	2	10	Med	2
Shortnose Sturgeon	3	3	1	1	1	1	10	Med	2
Sea Lamprey	1	1	1	1	1	3	8	Low	1
White Perch	2	1	1	2	1	1	8	Low	1
Tom Cod	1	1	1	1	1	1	6	Low	1