

## Friends of Herring River



### How Will Wildlife Respond to the Herring River Restoration?

The Herring River Restoration Project will significantly improve habitat for a wide variety of wildlife. Restoration of up to 890 acres of inter-tidal marsh will expand habitat for species that thrive in salt and brackish marsh environments. Salt marshes are among the most productive ecosystems on the planet and provide food, shelter, nesting sites, and migratory habitat for many species of birds, mammals, and reptiles. Restoring tides to the Herring River will enhance the quality and quantity of these resources and improve their resiliency in the face of increased threats by sea level rise and land-based pollution and encroachment.

The Herring River Project's Environmental Impact Report contains projections of potential changes in habitat related to the restoration. The Friends of Herring River (FHR) and Herring River Restoration Committee (HRRC) are working closely with Massachusetts Natural Heritage and Endangered Species Program (NHESP) and other experts to estimate changes to habitats of state-listed rare wildlife species, and develop a Habitat Management Plan. Importantly, the Project has been designed to ensure that any changes in tidal flow occur slowly and incrementally so that aquatic, avian and land-based wildlife have the ability to relocate to appropriate nearby habitat. Expected changes to habitat are limited in the upstream portions of the Project area because salinity levels there will remain low and because tidal flow will not be restored in the 174-acre Upper Pole Dike Creek during the Project's first phase.

### Shorebirds and Migratory Birds

- Tidal restoration and an increase in open water habitat is expected to lead to an overall shift in the composition of bird species from generalists that thrive in many habitats, to waterfowl, shorebird and wading bird species that rely on salt marshes. According to the Massachusetts Division of Fisheries and Wildlife, Black Ducks, in particular, should benefit from salt marsh restoration at Herring River.
- The current fresh marsh in the upper reaches of the Herring River system has been characterized as a "barren wasteland for marsh birds," by Jim McDougal, a marsh bird specialist. Restoration will benefit nesting and foraging habitat for several high priority salt-marsh and tidal-creek dependent species such as Willets, Great and Snowy Egrets, Osprey and Common and Roseate Terns, as well as migratory waterfowl.
- Freshwater and brackish marsh used for nesting areas by Northern Harriers (State Threatened status), American Bitterns (state endangered) and Least Bitterns (State Endangered status) will slightly decrease in the lower parts of the floodplain and shift upriver as wet shrublands become wetter and develop into emergent marshes. Overall the Project will have minimal impact on the quantity and quality of bittern nesting habitat, and will substantially increase salt marsh habitat used by these birds for foraging, nesting and other non-breeding behaviors.
- Restoration of high salt marsh, which is declining throughout Wellfleet Harbor and other parts of Cape Cod, will provide critical nesting habitat for sharp-tailed sparrows, a declining species completely reliant on this habitat for breeding.
- If no action is taken, continued forest and shrub growth and expansion of invasive *Phragmites* will displace the more open, herbaceous habitats in the upper part of the system that are relied upon by harriers and bitterns for nesting.

## **Reptiles**

- The restoration will expand habitat by more than 750 acres for Diamondback Terrapins (State Threatened status). Terrapins use the river and fringing marshes for foraging, mating and nesting.
- Increased salinities and higher water levels are expected to alter 88 acres of dry shrub land that serves as habitat for Eastern Box Turtle (State Special Concern status). However, these areas are adjacent to other suitable Eastern Box Turtle habitat, including 3,500 acres protected by the Cape Cod National Seashore. The HRRC, National Seashore and NHESP are working closely to develop a Habitat Management and Monitoring Plan that will carefully monitor movement of Eastern Box Turtles.

## **Mammals**

- Adequate habitat for foraging, cover and den sites would remain for most species following restoration. The gradual restoration of tidal flow would allow these animals to adjust or shift their local range within the River, flood plain, and the abundant upland habitat adjacent to the project area. Small animals like mice and rabbits, and larger ones such as deer and coyotes, will persist on marsh hummocks and edges, and even on the marsh proper during low tides. Salt meadow cord grass, for example, is a valuable forage plant for White-tailed Deer and provides habitat for Meadow Voles, themselves an important food source for harriers and other raptors.

## **Water Willow Stem Borer**

- Increased salinity following restoration will eliminate some stands of Water Willow, which is the host plant for the Water Willow Stem Borer, a State threatened small moth, endemic to southeastern Massachusetts. However, this habitat loss will be limited in upstream areas, where salinity levels will remain low, and by the fact that tidal flow will not be restored in the 174-acre Upper Pole Dike Creek during the Project's first phase. In addition, stands where water willow is common are found along the edges of ponds and vernal pools near the project area, so large areas of habitat are available for the moth to colonize. The HRRC, National Seashore and NHESP are working closely to develop a *Habitat Management and Monitoring Plan* that will monitor changes in water willow habitat and implement appropriate management measures that will ensure the long-term viability of the species within the area.