



TYGARTS KINNICONICK COA

The Tygarts Kinniconick Conservation Opportunity Area (COA) encompasses 331,938 acres in northeastern Kentucky. This COA was delineated from portions of two HUC-8 watersheds (Ohio Brush- Whiteoak and Little Scioto) in three counties (Carter, Greenup, and Lewis). Two significant, north-northeasterly flowing tributaries of the Ohio River provide its namesake. Kinniconick Creek flows for 48 miles long through Lewis County to its confluence with the Ohio River at Garrison. Tygarts Creek flows 62 miles from its origin in Carter County to its confluence with the Ohio River at South Shore in Greenup County.

The terrain of Tygarts-Kinniconick is more rugged than the Interior Plateau region to the west, but maximum elevation and local relief are lower than the Cumberland Mountains. Rounded hills and ridges and narrow valleys with high gradient streams characterize the landscape. The western portion of the COA draining Kinniconick Creek is underlain by Pennsylvanian through Silurian-aged sedimentary rock. The eastern portion draining Tygarts Creek has erosion-resistant Pennsylvanian-aged sandstone and conglomerate capping the ridges, with Mississippian limestone exposed in valleys and karst topography. Streams are cool and of moderate to high gradient with cobble or boulder substrates. Nutrient loads and alkalinity are lower than the Interior Plateau but higher than most of the Cumberland Plateau. These conditions result from land cover and use. The land cover is predominately (85%) deciduous and mixed forest, composed primarily of oak and oak-pine forest types. Land uses include logging, livestock farming,



Winter hibernacula for the endangered Indiana bat are restricted to a few caves with very specific conditions.
Photo: KDFWR.



Saltpeper Cave has experienced multiple impacts ranging from saltpeter mining to cave commercialization. Efforts to restore natural climate conditions and preclude vandalism have resulted in recolonization of the site by Indiana bats.
Photo: KDFWR

Tygarts Kinniconick SGCN Priority by Taxa

Taxa	Moderate Priority	High Priority	Highest Priority	Data Deficient	Plant	Grand Total
Amphibians	3	1	1	5		10
Birds	30	8				38
Crustaceans				4		4
Fishes	2	2		4		8
Freshwater Mussels and Snails	1	7	1	1		10
Insects		1				1
Mammals	3	8		6		17
Plants					6	6
Reptiles	1					1
Grand Total	40	27	2	20	6	95

and surface and underground coal mining.

The COA's notable karst topography is exemplified by the caverns encompassed by Carter Caves State Resort Park and two State Nature Preserves within the park's boundaries. The permanent protection of Carter Caves State Park and Nature Preserves is important both recreationally and biologically. Bat and Saltpeter caves provide wintering habitat for the federally endangered Indiana bat. Less than 1% of the COA is publicly owned, with the largest public land areas being Carter Caves State Resort Park (1,664 acres), adjacent Tygarts State Forest (939 acres), and the two Natures Preserves (collectively 157 acres). In addition to the important cave habitat for bats and other animals, the cave entrances harbor many glacial relict disjunct rare plants and snails due to the cool microclimate. There are also limestone outcrops and woodlands in the uplands of Tygart's Creek that contain several SGCN plants and animals, including some undescribed plant species currently under study.

A total of 95 SGCN are documented within the Tygarts-Kinniconick COA, including 27 within the highest prioritization category. The majority of SGCN falling within this COA are birds (38 species), followed by aquatic species (32 amphibians, crustaceans, fishes, and freshwater mussels and snails, collectively). There are also SGCN plants that occur within this COA, most occurring in upland limestone outcrops and woodlands. Others, such as Virginia spiraea, occur along the river scour riparian habitat of Kinniconick Creek and is dependent on free-flowing wild rivers and

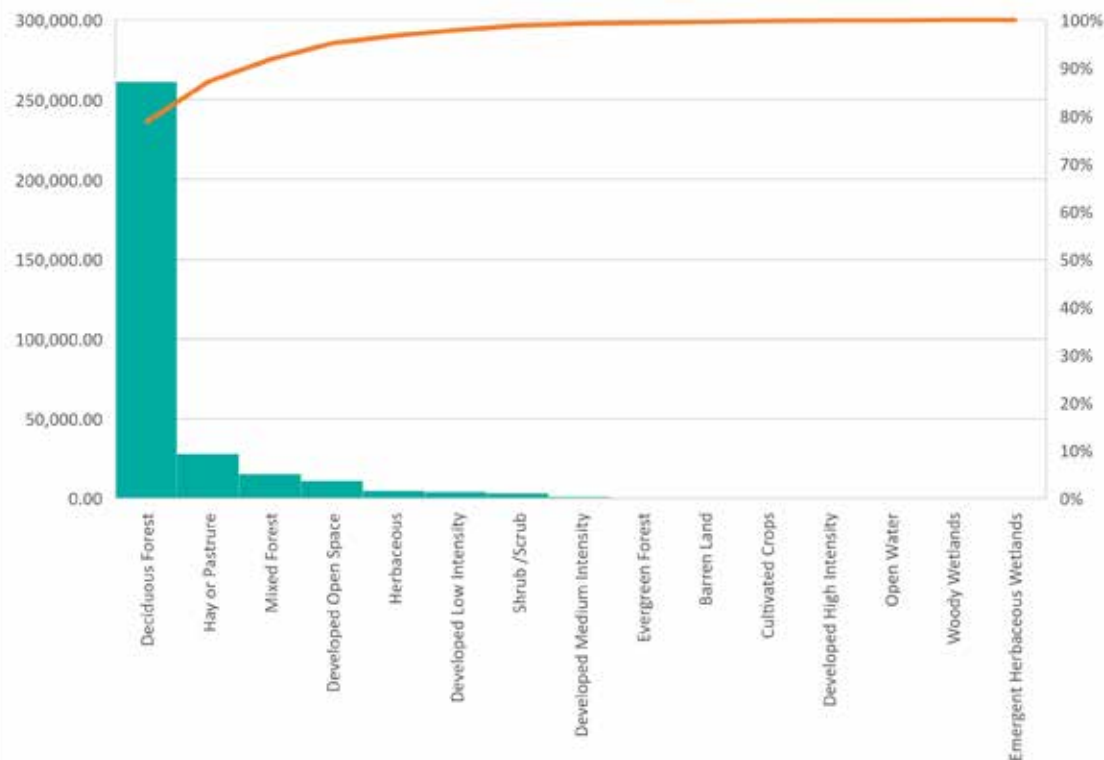


A 'hellbender hut' placed in Kinniconick Creek. Utilization of these artificial nest boxes allows for continued monitoring and future propagation efforts for the eastern hellbender. Photo: Sarah Tomke

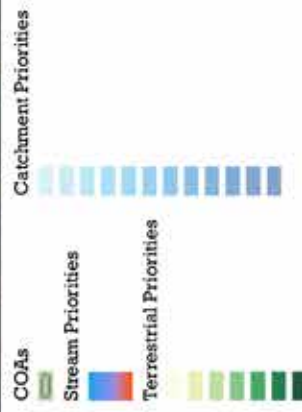
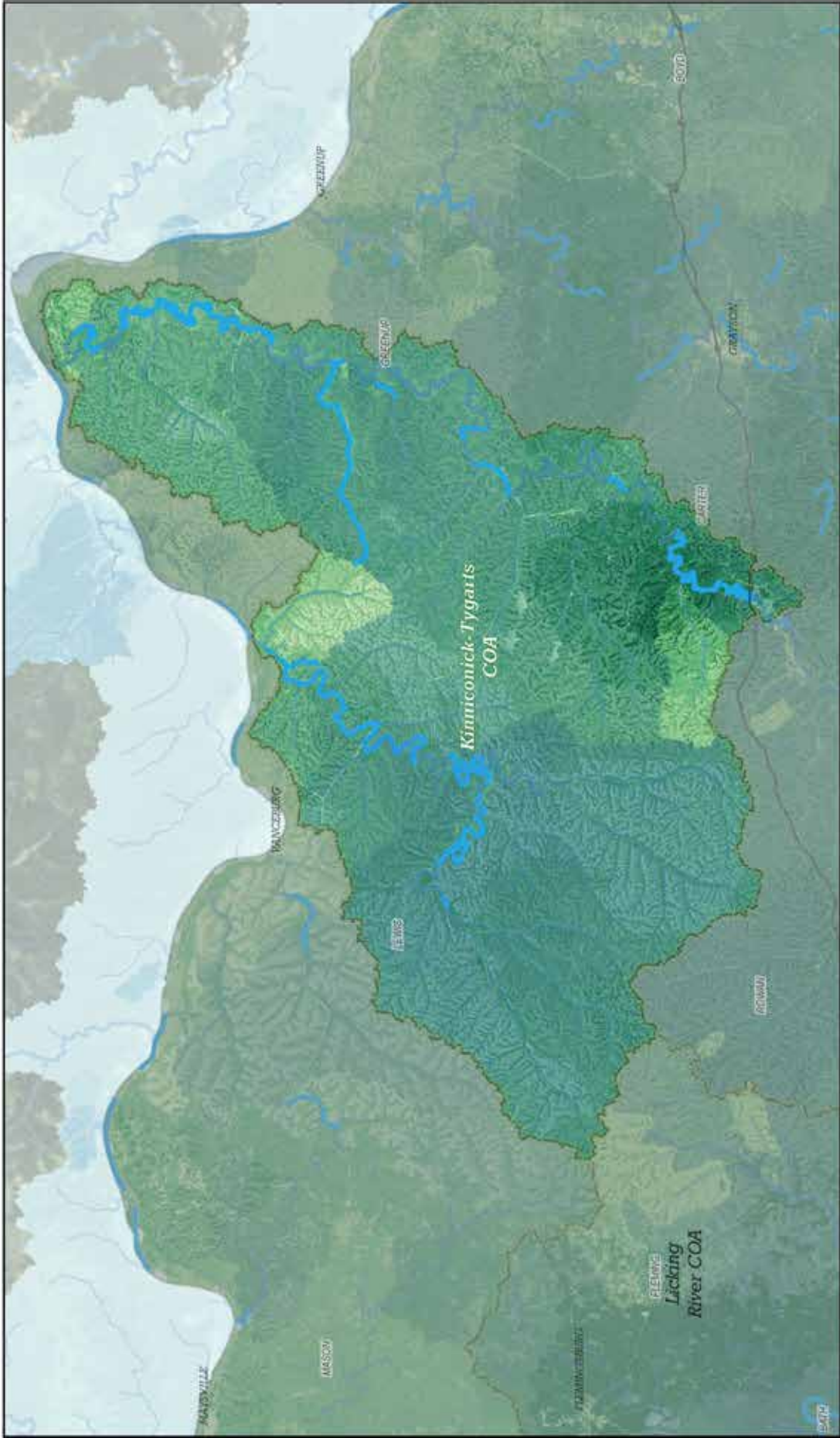
quality aquatic habitat. The top threats identified within this COA are Natural System Modification, Pollution, Agriculture/ Aquaculture, and Residential and Commercial Development. The highest priority conservation actions needed to address these threats include Education and Awareness, External Capacity Building, Land/Water Management and Protection.

Current and potential partnerships identified include collaboration with the U.S. Fish and Wildlife Service, USDA-Farm Services Agency, USDA-Natural Resources Conservation Service, Kentucky Division of Conservation, Kentucky Division of Forestry, Kentucky Division of Water, the Office of Kentucky Nature Preserves, and Kentucky State Parks.

Tygarts Kinniconick Land Use by Acres



Kinniconick-Tygarts COA



Maps prepared by GIS staff at KDFWR in partnership with OKNP and TNC. Service Layers courtesy of: Source: Esri, USDA, FSA, NCI, Esri, HERE, Garmin, SwireGraph, FAO, METI/NASA, USGS, EPA, NPS, Source Esri, Maxar, Earthstar Geographics, and the GIS User Community, DGI, KyFromAbove Partners.