

- 1 = infeasible to low degree of feasibility. There is little or no opportunity for habitat restoration/protection and threat abatement. Threats will likely continue or increase over time even with significant investments in habitat restoration/protection.
- 2 = moderately feasible. There is limited opportunity for habitat restoration/protection and threat abatement. Threats may be reduced over time with significant investments in habitat restoration/protection.
- 3 = high degree of feasibility. There is substantial opportunity for habitat restoration/protection and threat abatement. Threats can likely be reduced over time with significant investments in habitat restoration/protection.

Both variables, species richness and management feasibility, were standardized as the difference from the minimum value divided by the difference between the minimum and maximum value. Standardized input values for species richness and management feasibility were multiplied by weighted values (0.63 and 0.37, respectively) derived from an averaged opinion of team members. Weighted values were summed, and then divided by the sum of weights to derive final scores.

Table 12. Prioritization of 8-digit HUC watersheds for location of habitat management actions based on species richness and management feasibility (see Table 2 for list of species by HUC). Species richness and management feasibility values were standardized and weighted to provide weighted average scores for prioritization. The weights of 0.63 and 0.37 on richness and feasibility, respectively, were elicited from members of the team most familiar with the watersheds. To standardize, the maximum received a 1, the minimum received a 0, and the intermediate values were interpolated between 0 and 1. Higher scores indicate higher priority.

8-digit HUC	Species Richness	Standardized Richness	Feasibility	Standardized Feasibility	Weighted Average
Upper Clinch	24	1.00	2.50	0.7	0.90
Powell	16	0.65	2.33	0.6	0.65
Nolichucky	7	0.26	2.67	0.8	0.47
Upper Little Tennessee	4	0.13	3.00	1.0	0.45
Hiwassee	7	0.26	2.40	0.7	0.41
Tuckasegee	2	0.04	3.00	1.0	0.40
North Fork Holston	6	0.22	2.33	0.6	0.37
Lower Little Tennessee	6	0.22	2.33	0.6	0.37
Emory	3	0.09	2.60	0.8	0.35
Sequatchie	3	0.09	2.40	0.7	0.31
Upper French Broad	1	0.00	2.50	0.7	0.27
Pigeon	1	0.00	2.50	0.7	0.27
South Fork Holston	4	0.13	2.00	0.5	0.25
Lower French Broad	4	0.13	2.00	0.5	0.25
Holston	5	0.17	1.67	0.3	0.21
Watts Bar Lake	6	0.22	1.40	0.1	0.18
Middle Tennessee-Chickamauga	6	0.22	1.25	0.0	0.15
Ocoee	1	0.00	1.80	0.3	0.13
Lower Clinch	1	0.00	1.17	0.0	0.00

## Conclusions

Based on the outcome of the SDM analyses, population management emphasis emerged as the optimal approach for achieving conservation of imperiled aquatic species in the UTRB. By following this approach, USFWS will direct more available resources toward implementation of

ESA Sections 7 and 10, protection of existing populations and designated critical habitat, establishment of new populations, increasing extant populations, and initiation of a program for captive population management. Additionally, land acquisition and easements and restoration of instream and riparian habitat will continue but with reduced emphasis, while development of stream and riparian habitat BMPs will increase.

Information needed to support the population management emphasis approach includes increased life history research, threat analyses, genetics monitoring and research, population viability analyses, habitat evaluation for reintroduction, propagation and captive management research, and evaluation of ecosystem services, while maintaining existing population and habitat monitoring. Communication and partnerships to support population management emphasis include increased outreach and establishment of new partnerships, while maintaining intra-agency communications.

The Strategy incorporates the optimal management approach with priority species and locations (Figure 8). The Strategy helps to guide planning and management at the landscape scale across a large and diverse suite of species. As such, it is essential that managers and conservation practitioners recognize the flexibilities the Strategy affords and adapt its application at the local level to ensure conservation efforts will be effective. Thus, the next step is to advance from a coarse strategy to developing specific projects that implement population management emphasis for priority species and locations.

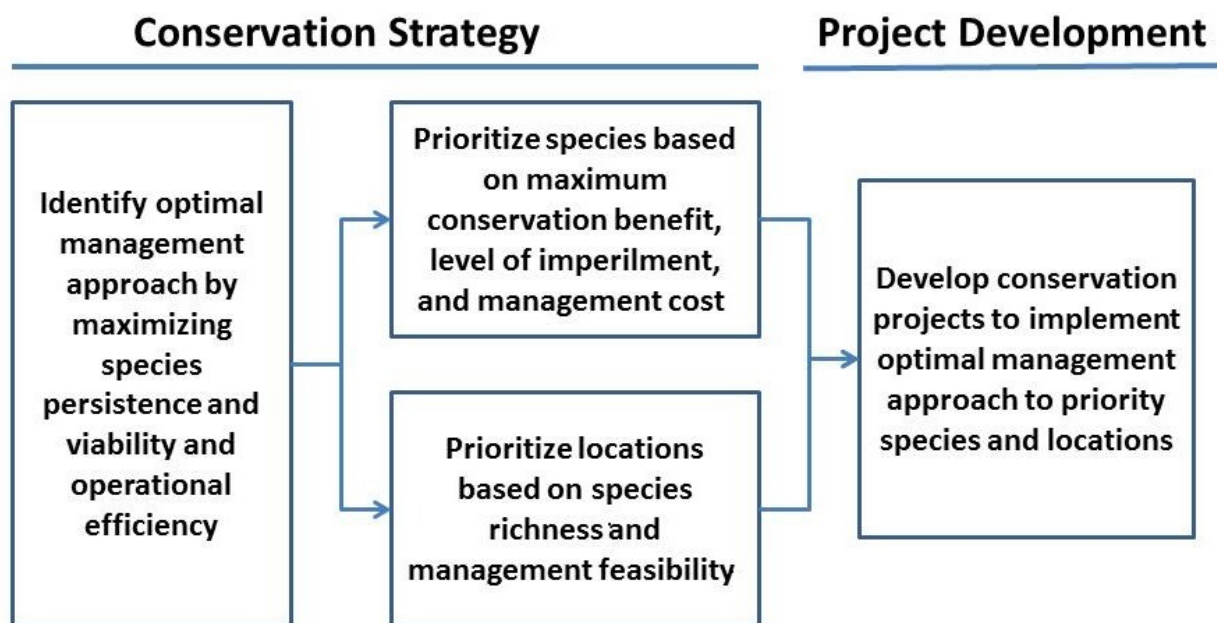


Figure 8. Diagram of Strategy components which feed into project development.