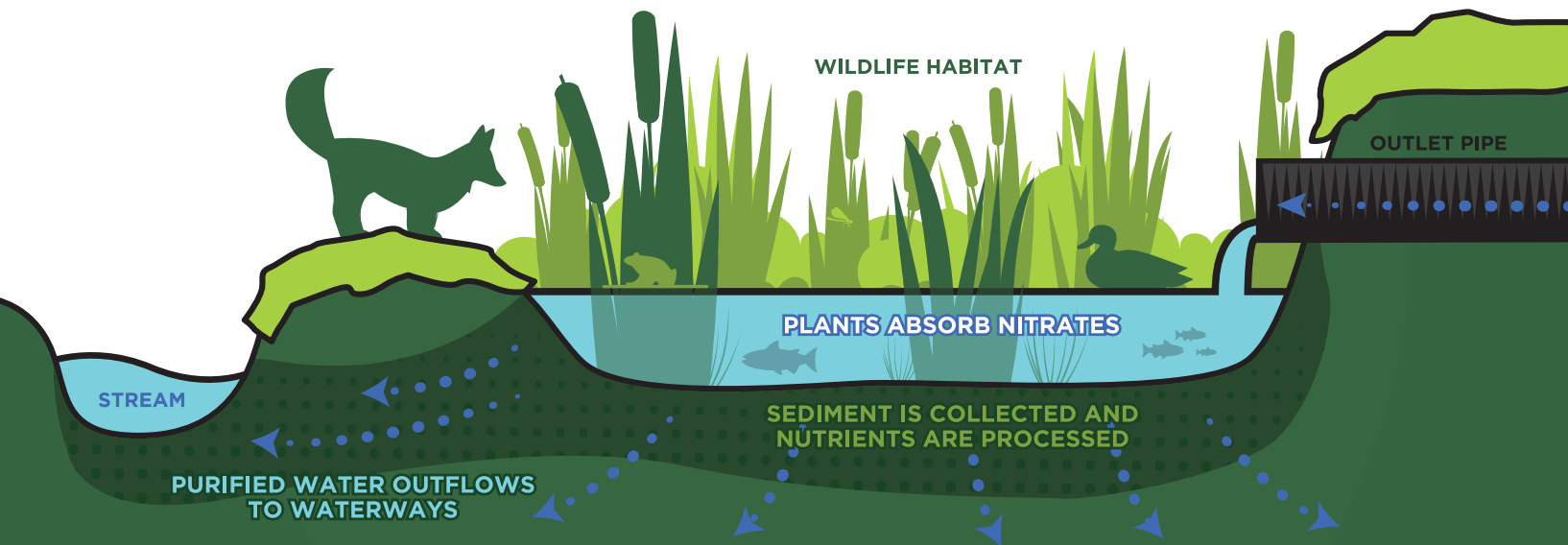


CONSTRUCTED WETLANDS

ECO-FRIENDLY NUTRIENT MANAGEMENT

WHAT ARE THEY?

Constructed wetlands are engineered ecosystems designed to mimic natural wetlands' ability to purify water. They target the removal of nitrogen from agricultural drainage systems through a process called denitrification. While their primary role is nutrient removal, they also serve as valuable wildlife habitats.



MULTIPLE PURPOSES

Wetland Pool:

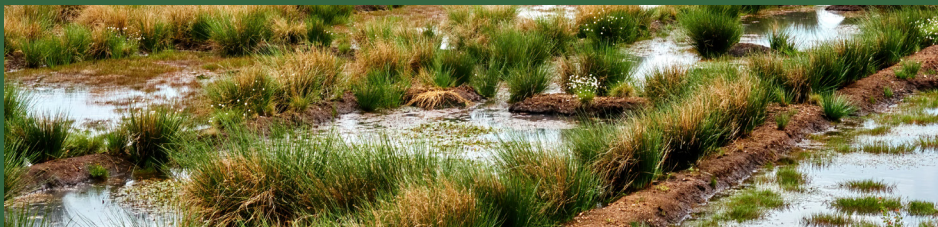
A shallow pool is created to simulate the conditions found in natural wetlands.

Denitrification:

Favorable conditions promote the conversion of nitrogen into harmless gasses, purifying the water.

Wildlife Habitat:

These areas become sanctuaries for various species, enhancing biodiversity.



WHY YOU SHOULD CONSTRUCT WETLANDS

Constructed wetlands offer a sustainable and effective solution for nutrient pollution from agricultural runoff. They are an essential tool in water management strategies, reducing the environmental impact of farming practices and contributing to the restoration of aquatic ecosystems.

IMPLEMENTATION

Location Criteria: Suitable for construction in areas not originally wetlands, these ecosystems ideally intercept drainage before it reaches streams. They are adaptable to various scales making them versatile for different agricultural needs.

Floodplain Integration: They should be located outside of the 100-year flood plain to ensure functionality and longevity.

IMPACT AND COST

Environmental Benefits: With a wetland-to-drainage area ratio nearing 2 percent, nitrate reductions greater than 50 percent can be achieved, significantly mitigating nutrient runoff into water bodies.

Spatial Requirements: To meet NRCS standards, wetlands must cover at least 1 percent of the drainage area they serve, with recommendations suggesting up to 5 percent for optimal performance.

Economic Considerations: The cost of constructing wetlands varies, generally ranging from \$42,000 to \$80,000. With a practice cost of \$1.32 per pound of nitrogen removed, constructed wetlands represent a cost-effective method for nutrient management over time.

Constructed wetlands are a testament to the power of engineering and environmental science coming together to solve critical issues in agricultural runoff management while also creating spaces for nature to thrive including salamanders, frogs, beavers, muskrats, fish, insects and many birds including bald eagles.

SOURCE: AGRICULTURAL DRAINAGE MANAGEMENT COALITION (ADMC)