

Endangered Species Act Guidance: Proposed Sheepnose, Snuffbox, and Spectaclecase Mussels Critical Habitat

This document and accompanying flow chart provide Endangered Species Act (ESA) guidance for WisDOT projects. Unless there is a nuance identified for a specific species, the information and process will apply to the proposed critical habitat for all three endangered mussel species.

1. What changes are being proposed for the federally listed sheepnose, snuffbox, and spectaclecase mussels?

On December 13, 2024, the U.S. Fish and Wildlife Service (USFWS) announced a [proposal](#) to designate several waterways in WI as critical habitat under the Endangered Species Act (ESA) for 3 federally endangered mussels:

[Sheepnose mussel](#) (*Plethobasus cyphus*),

[Snuffbox mussel](#) (*Epioblasma triquetra*), and

[Spectaclecase mussel](#) (*Cumberlandia monodonta*).

Proposed critical habitat is specific to each species. Maps can be viewed in the proposal linked above and in the attached map set.

This is not a final rule. USFWS may make changes to proposed critical habitat based on public comments/new information. The final decision and accompanying critical habitat designation rule is expected to be published about 1 year from the proposed rule date, with an effective date to follow.

2. What is the current process for WisDOT improvement projects to address this proposed rule?

See attached flow chart.

3. What does this change mean for Section 7 consultation?

Designated critical habitat receives protection under Section 7 of the Endangered Species Act. Federal agency actions or actions with a federal nexus (e.g., federally funded, authorized, permitted) that *may affect* an area designated as critical habitat require *consultation* with USFWS once the designation is final (date TBD).

The ESA requires federal agencies to *confer* with USFWS on any agency action which is likely to result in the destruction or adverse modification of proposed critical habitat. Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species. The adverse modification threshold is more substantial than that of an adverse effect determination. Conferencing may be necessary for some projects with adverse effects before the designation is final to minimize project schedule risk.

Sheepnose, snuffbox and spectaclecase mussels are already listed as endangered species under the ESA and Section 7 consultation for these species can be completed as necessary. These mussel species are currently included in the IPaC MN-WI Endangered Species Determination Key, but the proposed critical habitats are not at this time.

4. What does this change mean for projects that do not have a federal nexus?

Critical habitat designations do not apply to non-federal activities provided there is no federal nexus to be able to carry out the activity. Be aware that federal water permits (e.g., Clean Water Act Section 404) bring in a federal nexus. Federal water permits are commonly needed for projects that also have the potential to affect mussel critical habitat (e.g., bridge replacements). Coordination with the federal permitting agency early will help to determine the appropriate

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path forward for consultation on the critical habitat for their federal action (permit issuance).

5. How does this proposed federal critical habitat designation affect the process for complying with Wisconsin's Endangered Species Law administered by WDNR?

The sheepnose, snuffbox, and spectaclecase mussels are all state endangered species. Compliance with the WI Endangered Species law does not change as a result of the proposed federal critical habitat designation.

Most mussel impacts/relocations generally fit under WDNR's [mussel broad incidental take authorization/permit](#). If projects cannot meet all of the requirements, individual state incidental take authorization would be required. WDNR may request/require mitigation for permanent impacts to suitable mussel habitat.

State compliance does not fulfill Endangered Species Act compliance requirements.

6. What is the difference between critical habitat and suitable habitat?

Critical habitat is a legal designation under the ESA that includes specific geographic areas that contain the physical or biological features (PBFs) that provide for a species' life history processes and are essential to the conservation of the species. Not all species have critical habitat designated for them.

Suitable habitat for animals is habitat that contains ecological characteristics that support breeding, feeding, resting, or sheltering. Suitable habitat doesn't necessarily imply high-quality habitat and it may exist in locations without a critical habitat designation. Suitable habitat is not geographically defined under the ESA and requires an assessment determine if it is present in a project's action area.

7. What is suitable habitat for the endangered mussels?

Mussels require habitat with appropriate streamflow, substrate and hosts to complete their lifecycle. These elements vary between mussel species but all of these mussel species have fish host species.

Mussels can survive short-term very low/no water conditions but cannot tolerate extended periods of very low/no water. Generally, ephemeral waterbodies are not suitable habitat.

Sheepnose mussels inhabit medium to large stream systems, typically within shallow shoal habitats with moderate to swift currents over mixtures of coarse sand, gravel and clay.

Snuffbox mussels inhabit small- to medium-sized creeks, to larger rivers, and in lakes, typically in swift currents of riffles and shoals and wave-washed shores of lakes over gravel and sand with occasional cobble and boulders.

Spectaclecase mussels inhabit larger stream systems and is generally found in microhabitats sheltered from both high and low extremes in flow, is found to occur in substrates from mud and sand to gravel, cobble and boulders within relatively shallow riffles and shoals with a slow to swift current.

8. How is suitable habitat determined?

WDNR only reviews waterbodies for suitable habitat if the project is within 2 miles of a species occurrence in the Natural Heritage Inventory (NHI). In absence of an NHI occurrence, WDNR does not evaluate the project for potential for suitable habitat.

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If it is unclear if WDNR reviewed the project for suitable mussel habitat during the initial review process, verify with the transportation liaison. WDNR may not have the resources available to make a suitable habitat determination for WisDOT for federal ESA compliance.

Unless waterbodies are determined to be clearly unsuitable through a desktop review, in-field habitat assessment is needed.

Environmental consultants generally have staff with appropriate expertise to conduct habitat assessments for WisDOT. This can be accomplished through the BTS ecological services contract or consultant design contract.

9. What are the specific physical or biological features (PBFs) for these proposed critical habitats?

The following physical or biological features are essential to the conservation of the rayed bean*, sheepnose, snuffbox, and spectaclecase:

(i) Adequate flows, or a hydrological flow regime (magnitude, timing, frequency, duration, rate of change, and overall seasonality of discharge over time), necessary to maintain benthic habitats where the species are found and to maintain stream connectivity.

(ii) Suitable substrates and connected instream habitats, characterized by geomorphologically stable stream channels and banks (*i.e.*, channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation) that support the four mussel species and their respective host fishes (*e.g.*, sand and gravel substrate with moderate flow, aquatic vegetation, in and adjacent to riffles and shoals).

(iii) Water and sediment quality necessary to sustain natural physiological processes for normal behavior, growth, and viability of all life stages, including appropriate levels of dissolved oxygen (generally above 2 to 3 parts per million (ppm)), salinity (generally below 2 to 4 ppm), and temperature (generally below 86 degrees Fahrenheit (°F) (30 degrees Celsius (°C))). Additionally, concentrations of contaminants, including (but not limited to) ammonia, nitrate, copper, and chloride, are below acute toxicity levels for mussels.

(iv) The presence and abundance of host fishes necessary for recruitment of the species. For the rayed bean, these are darter and sculpin species; for the sheepnose, these are mimic shiner (*Notropis volucellus*) and sauger (*Sander canadensis*); for the snuffbox, these are logperch (*Percina caprodes*) and darter and sculpin species; and for the spectaclecase, these are mooneye (*Hiodon tergisus*) and goldeye (*H. alosoides*).

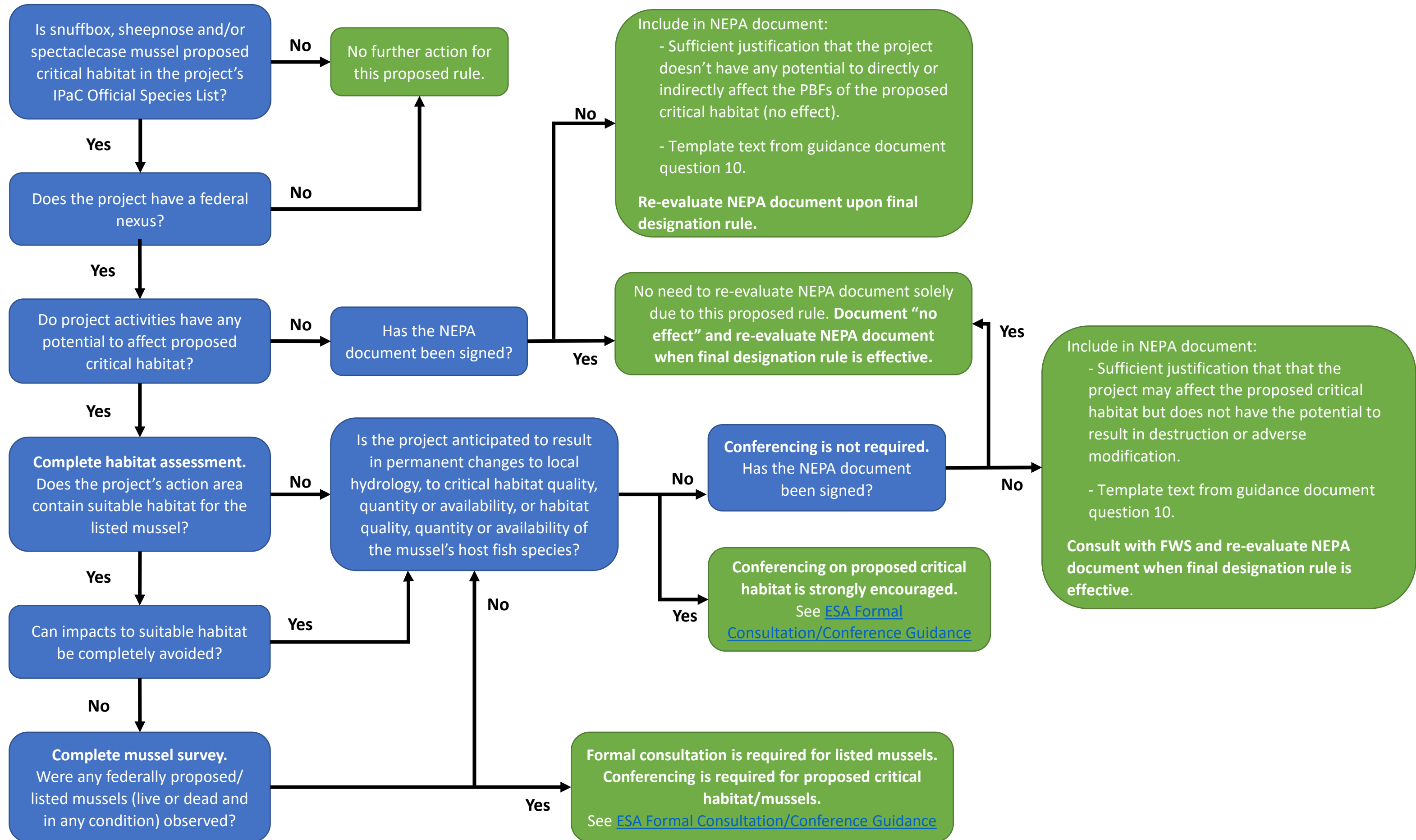
*Note: Critical habitat for 4 species was included in the proposed rule. Rayed bean mussel is not present in WI.

10. What text should be included in NEPA environmental documents when conferencing is not completed?

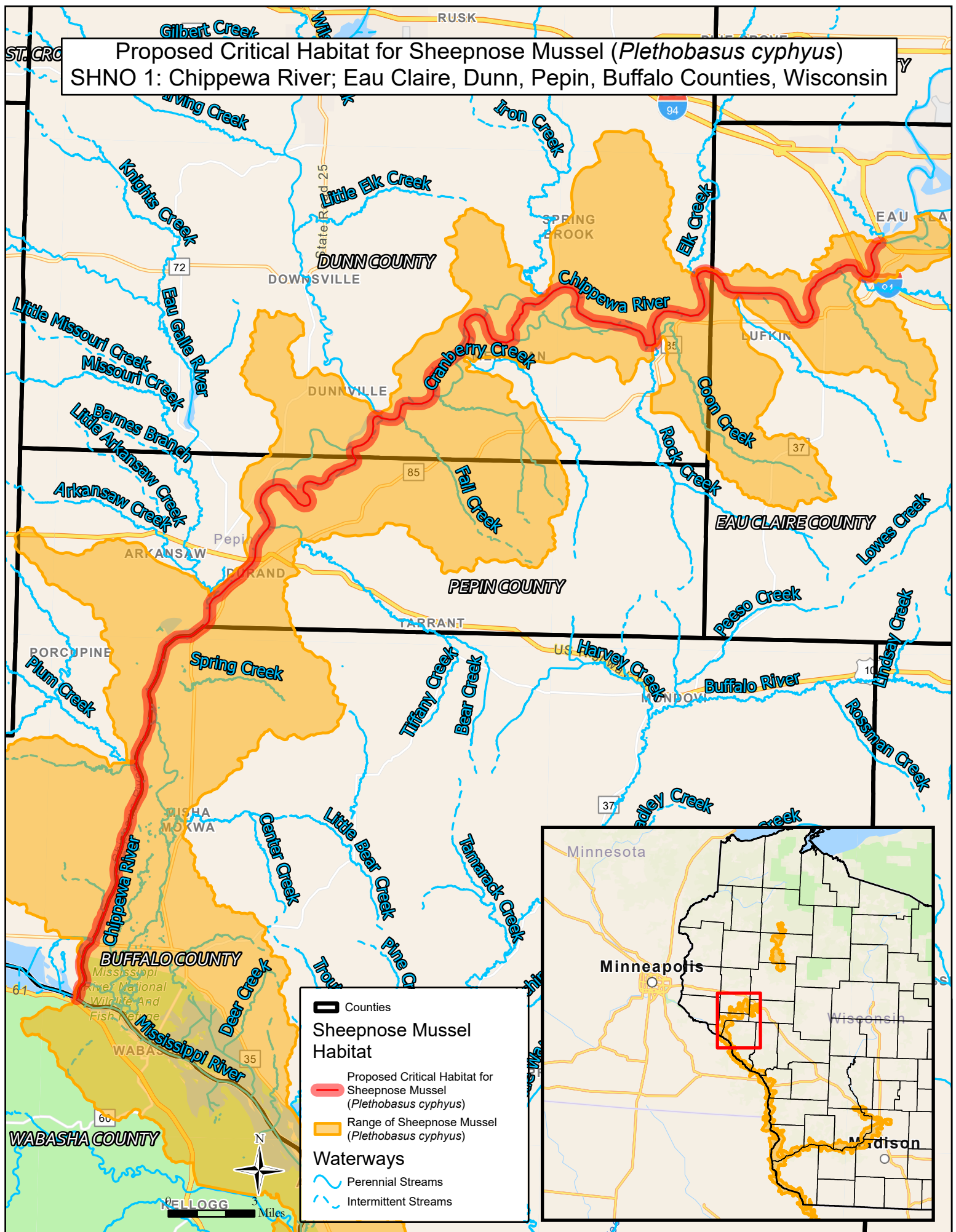
In addition to any requirements stated in the attached flow chart, also include:

On December 13, 2024, the U.S. Fish and Wildlife Service (USFWS) announced a proposal to designate critical habitat in the project area for the endangered [\[select as appropriate: sheepnose mussel \(*Plethobasus cyphus*\), snuffbox mussel \(*Epioblasma triquetra*\), spectaclecase mussel \(*Cumberlandia monodonta*\)](#) under the Endangered Species Act (ESA). If designated, WisDOT will resolve ESA compliance for the critical habitat prior to let, as appropriate. Construction activities for this project will not take place until WisDOT, in coordination with our lead federal agency, satisfies Endangered Species Act compliance for the critical habitat.

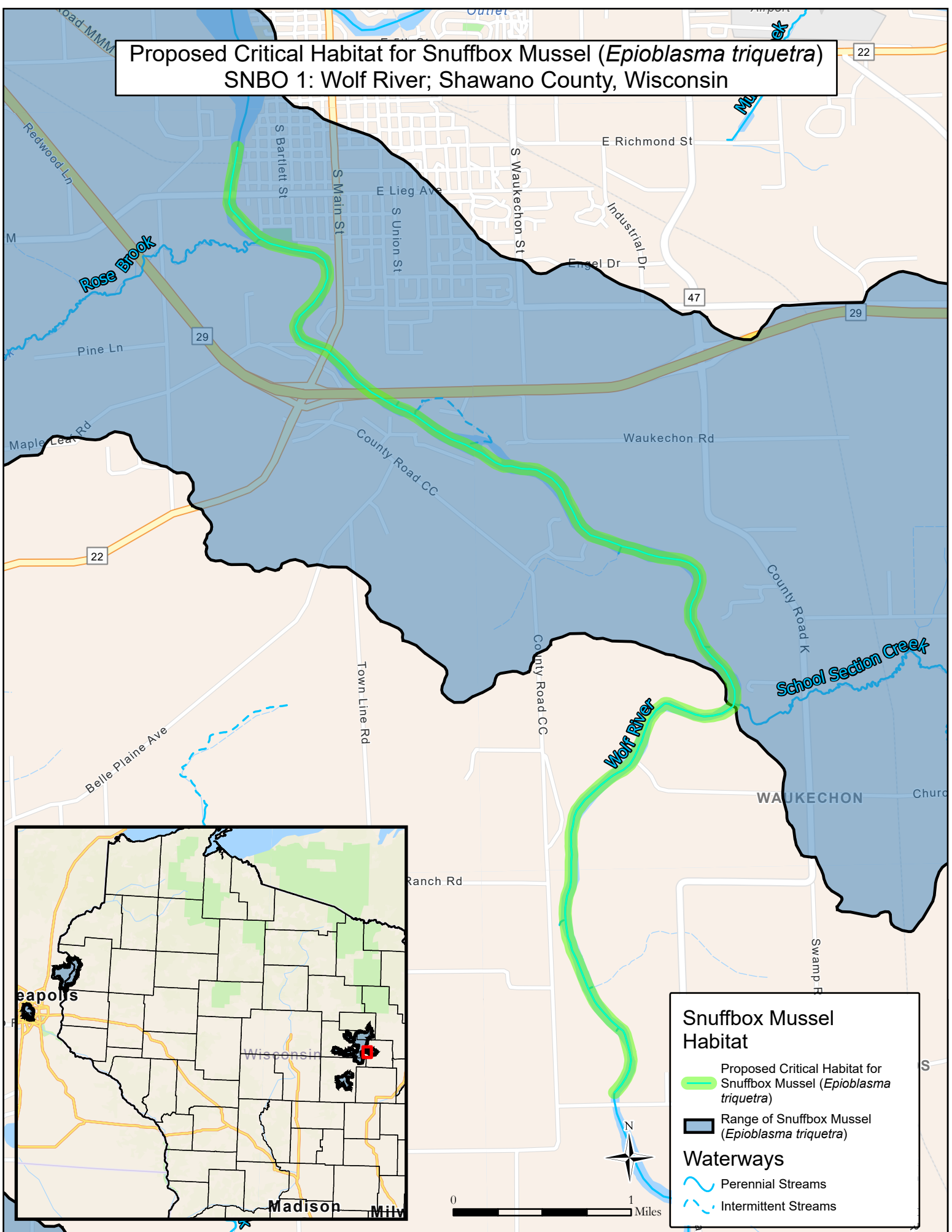
WisDOT Process to Address Proposed Critical Habitat Rule for Snuffbox, Sheepnose and Spectaclecase Mussels



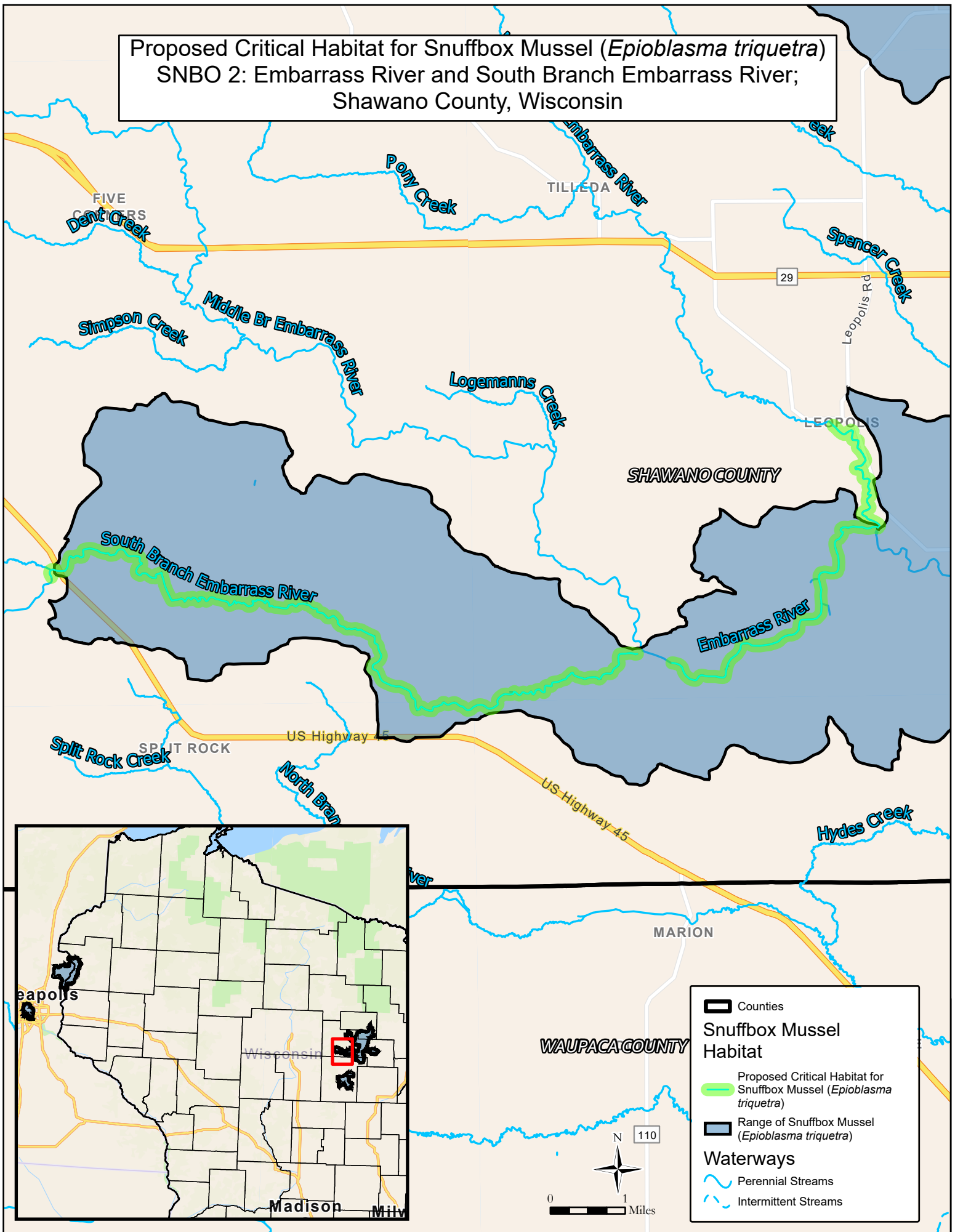
Proposed Critical Habitat for Sheepnose Mussel (*Plethobasus cyphus*)
SHNO 1: Chippewa River; Eau Claire, Dunn, Pepin, Buffalo Counties, Wisconsin



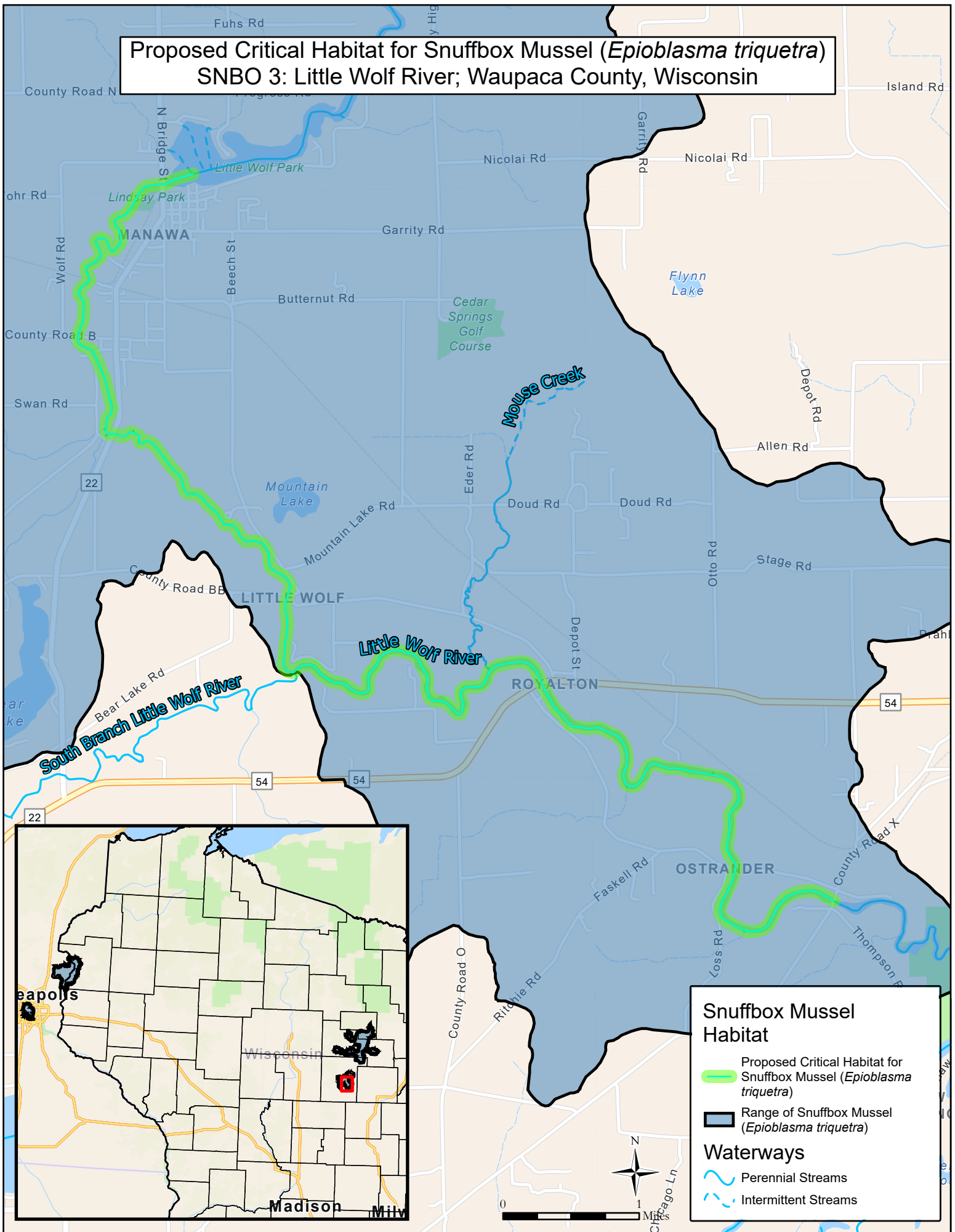
Proposed Critical Habitat for Snuffbox Mussel (*Epioblasma triquetra*)
SNBO 1: Wolf River; Shawano County, Wisconsin



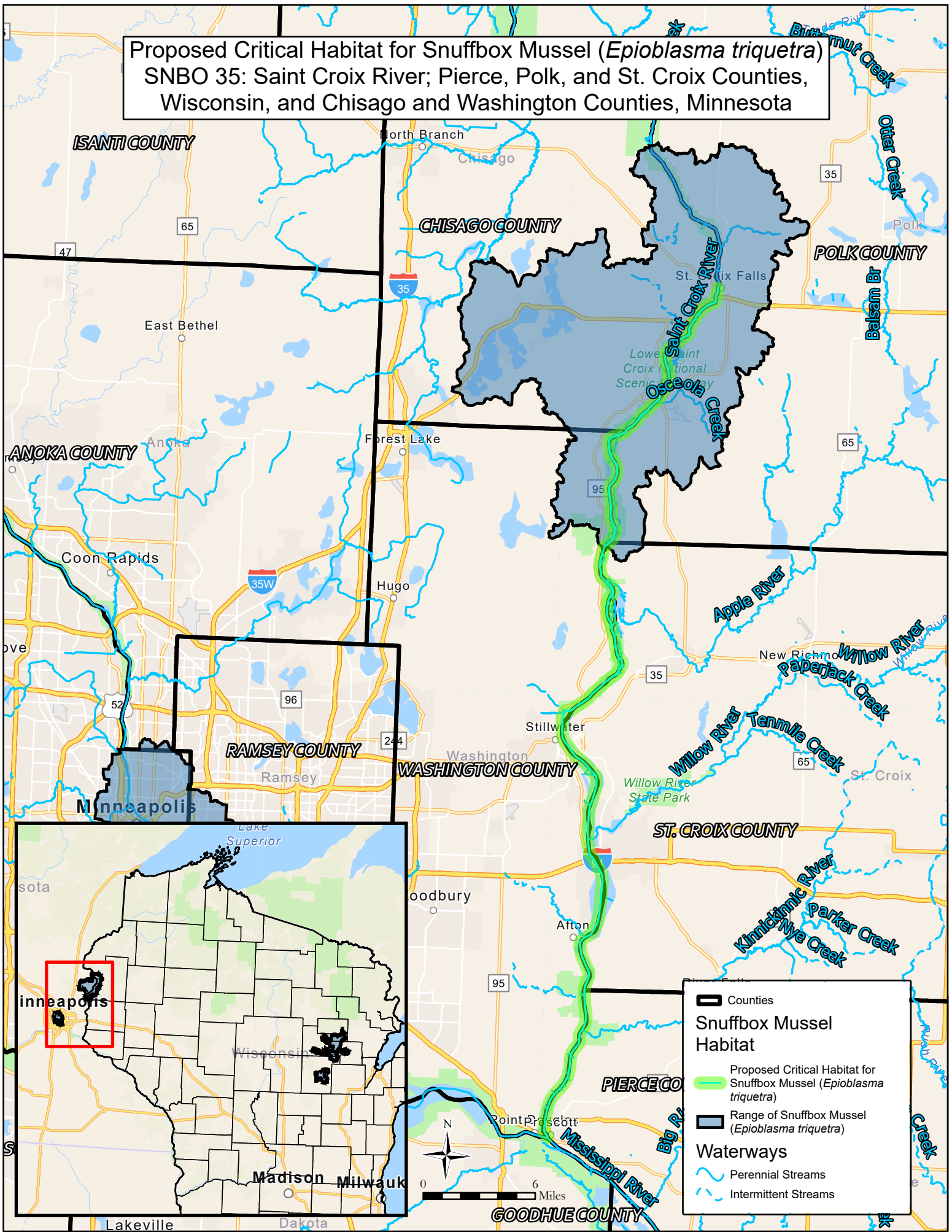
Proposed Critical Habitat for Snuffbox Mussel (*Epioblasma triquetra*)
 SNBO 2: Embarrass River and South Branch Embarrass River;
 Shawano County, Wisconsin



Proposed Critical Habitat for Snuffbox Mussel (*Epioblasma triquetra*) SNBO 3: Little Wolf River; Waupaca County, Wisconsin



Proposed Critical Habitat for Snuffbox Mussel (*Epioblasma triquetra*)
 SNBO 35: Saint Croix River; Pierce, Polk, and St. Croix Counties,
 Wisconsin, and Chisago and Washington Counties, Minnesota



Counties

Snuffbox Mussel Habitat

Proposed Critical Habitat for Snuffbox Mussel (*Epioblasma triquetra*)

Range of Snuffbox Mussel (*Epioblasma triquetra*)

Waterways

Perennial Streams

Intermittent Streams

Proposed Critical Habitat for Spectaclecase Mussel (*Cumberlandia monodonta*)
SPCA 1: Saint Croix River; Polk, St. Croix, Pierce Counties Wisconsin and
Chisago and Washington Counties, Minnesota

