

species. Such activities could include, but are not limited to, release of chemicals, biological pollutants, or heated effluents into the surface water or connected groundwater at a point source or by dispersed release (non-point).

(3) Actions that would significantly increase sediment deposition within the stream channel to a degree that appreciably reduces the value of the critical habitat for both the long-term survival and recovery of the species. Such activities could include, but are not limited to, excessive sedimentation from livestock grazing, road construction, channel alteration, timber harvest, off-road vehicle use, and other watershed and floodplain disturbances.

(4) Actions that would significantly increase the filamentous algal community within the stream channel to a degree that appreciably reduces the value of the critical habitat for both the long-term survival and recovery of the species. Such activities could include, but are not limited to, release of nutrients into the surface water or connected groundwater at a point source or by dispersed release (non-point).

(5) Actions that would significantly alter channel morphology or geometry to a degree that appreciably reduces the value of the critical habitat for both the long-term survival and recovery of the species. Such activities could include but are not limited to channelization, impoundment, road and bridge construction, mining, dredging, and destruction of riparian vegetation.

#### *Previous Section 7 Consultations*

We have consulted on over 100 Federal actions (or activities that required Federal permits) involving these 5 species since they received protection under the Act. Nine of these were formal consultations. Federal actions that we have reviewed include Federal land management plans, road and bridge construction and maintenance, water quality standards, recreational facility development, dam construction and operation, surface mining proposals, and issuance of permits under section 404 of the Clean Water Act. Federal agencies involved with these activities included the U.S. Army Corps of Engineers; Tennessee Valley Authority; U.S. Forest Service; Environmental Protection Agency; Office of Surface Mining, Reclamation and Enforcement; National Park Service; Federal Highway Administration; and the Service. The nine formal consultations that have been conducted all involved Federal projects, including five bridge replacements in Tennessee,

Kentucky, and Virginia; two Federal land management plans; and the review of two scientific collecting permits for one or more of the five mussel species. None of these formal consultations resulted in a finding that the proposed action would jeopardize the continued existence of any of the five species or destroy or adversely modify existing critical habitat previously designated in the area.

In each of the biological opinions resulting from these consultations, we included discretionary conservation recommendations to the action agency. Conservation recommendations are activities that would avoid or minimize the adverse effects of a proposed action on a listed species or its critical habitat, help implement recovery plans, or develop information useful to the species' conservation.

Previous biological opinions also included nondiscretionary reasonable and prudent measures, with implementing terms and conditions, which are designed to minimize the proposed action's incidental take of these five mussels. Section 3(18) of the Act defines the term take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct." Harm is further defined in our regulations (50 CFR 7.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

Conservation recommendations and reasonable and prudent measures provided in previous biological opinions for these mussels have included maintaining State water quality standards, maintaining adequate stream flow rates, minimization of work in the wetted channel, restriction of riparian clearing, monitoring of channel morphology and mussel populations, sign installation, protection of buffer zones, avoidance of pollution, cooperative planning efforts, minimization of ground disturbance, use of sediment barriers, use of best management practices to minimize erosion, mussel relocation from bridge pier footprints, and funding research useful for mussel conservation. In reviewing past formal consultations, we anticipate the need to reinstate only one consultation on Federal actions as a result of this proposed designation. The Daniel Boone National Forest in Kentucky is in the process of finalizing their Forest Plan. The Forest Service may be required to revise this plan to account for proposed critical habitat

designations in Rock Creek, Sinking Creek, and Marsh Creek.

As mentioned in the "Existing Critical Habitat" section, 36 percent of the areas proposed critical habitat is currently designated critical habitat for the spotfin chub, yellowfin madtom, or slender chub. We have conducted 56 informal consultations involving existing critical habitat for these fish in the areas proposed as critical habitat for the five mussels in the Obed River, Powell River, and Clinch River in Tennessee. All of these consultations involved both the potential adverse effects to the species and the potential adverse modification or destruction of critical habitat. These consultations, which were similar to consultations carried out for the five mussel species, primarily included utility lines, bridge replacements and reconstructions, gravel dredging, and an oil spill on Clear Creek (a tributary of the Obed River and designated critical habitat for the spotfin chub). We have consulted on seven projects that involved existing critical habitat for the yellowfin madtom and/or slender chub in Virginia. Three of these consultations were formal, involving projects like bridge crossing on the Clinch and Powell Rivers. None of these formal consultations resulted in a finding that the proposed activity would destroy or adversely modify existing critical habitat previously designated in the area.

The designation of critical habitat for these five mussels will have no impact on private landowner activities that do not involve Federal funding or permits. Designation of critical habitat is only applicable to activities approved, funded, or carried out by Federal agencies.

If you have questions regarding whether specific activities would constitute adverse modification of critical habitat, you may contact: Alabama—Daphne, FWS Ecological Services Office (251/441-5181); Kentucky—Frankfort, FWS Ecological Services Office (502/695-0468); Mississippi—Jackson, FWS Ecological Services Office (601/965-4900); Tennessee—Cookeville, FWS Ecological Services Office (931/528-6481); Virginia—Abingdon, FWS Ecological Services Office (276/623-1233).

#### **Exclusions Under Section 4(b)(2)**

Section 4(b)(2) of the Act requires that we designate critical habitat on the basis of the best scientific data available, and after taking into consideration the economic and any other relevant impact of specifying any particular area as critical habitat. We may exclude areas from critical habitat if the benefits of