Throughout the developing world, river sand and gravel is widely exploited as aggregate for construction. Sediment is often mined directly from the river channel and makes an important contribution to the national demand for aggregates. However, instream mining, if not carefully controlled, can cause significant damage to the river and its associated biota, and to the adjacent land, as well as creating conflict with other users of the river. The economic and environmental geology of river sand and gravel mining in developing countries is poorly known and there is little knowledge available to inform existing regulatory strategies. Research work on selected river systems in Jamaica and Costa Rica has generated a considerable amount of new information on resources and sediment budgets, on market and supply options, on the physical, biological and social impacts of extraction, and on best-practice legislative and mineral planning issues. A methodology has been developed for effective control of instream sand and gravel mining operations including a Code of Practice, which regulators can use for examining and reconciling the conflicting claims of sand and gravel extraction and the environment.