As urbanization expands city planners and policymakers need to consider how ecological resources can be strategically developed and managed sustainably to meet the needs of urban populations. The ecosystem services (ES) approach provides a useful framework for assessing the status quo, setting goals, identifying benchmarks and prioritizing approaches to improving ecological functioning for urban sustainability and resilience. However, new tools are required for comprehensively evaluating urban ES for ecosystem management and to understand how local and regional trends and plans may affect ES provisioning. We develop an ES assessment methodology that can be used to assess multiple ES of urban green space and integrate them with social conditions in urban neighborhoods. Our approach considers social-ecological conditions and their spatial patterns across the urban landscape. The analysis focuses on vacant land in New York City. Results suggest that a combined social-ecological approach to ES assessment yields new tools for monitoring and stacking ES. We find that clusters of vacant lots in areas with overlapping low ecological value (e.g. low concentration of green space) and high social need for ES (e.g. high population density) are primarily concentrated in three areas of the city – East Harlem, South Bronx and Central Brooklyn.

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