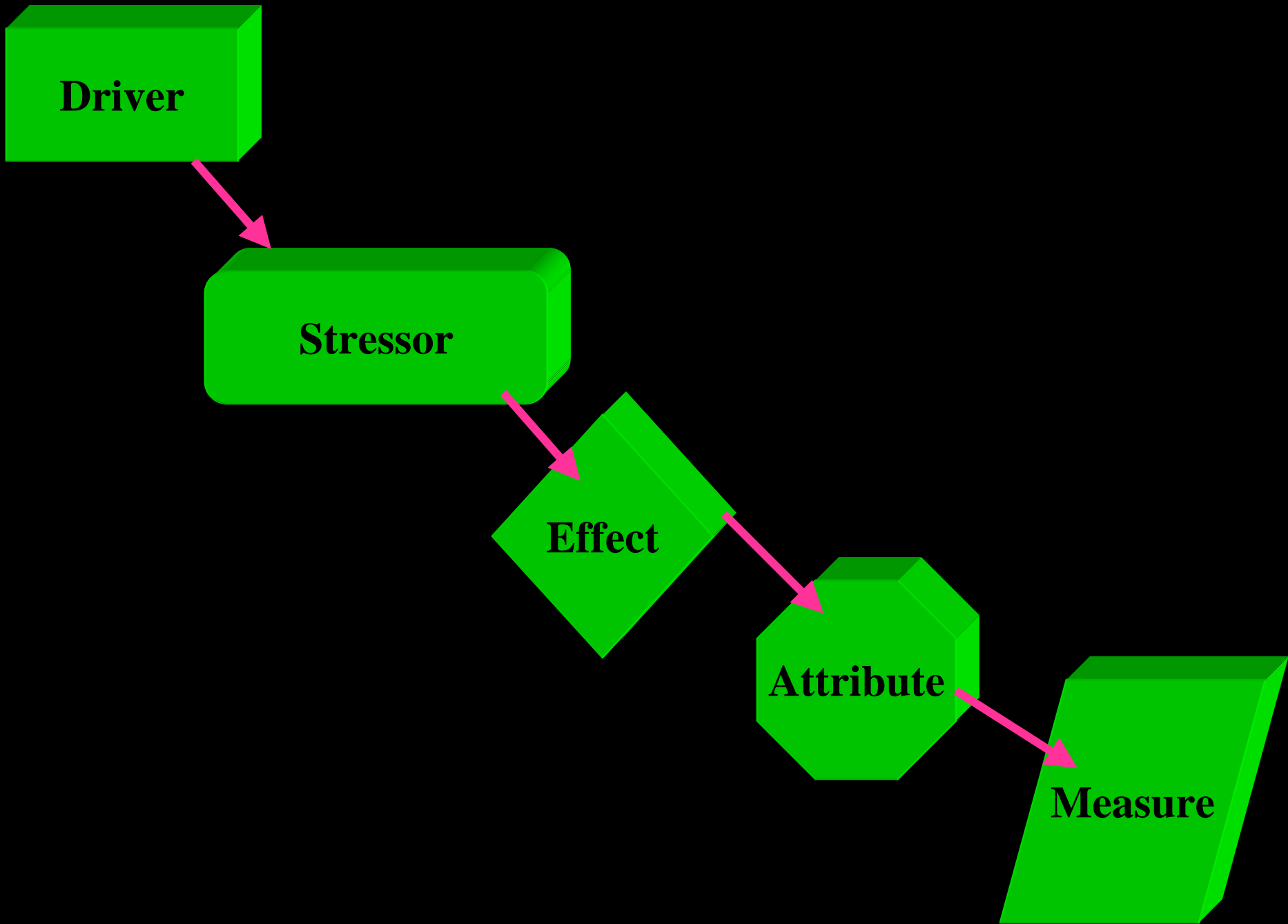


Performance Measures

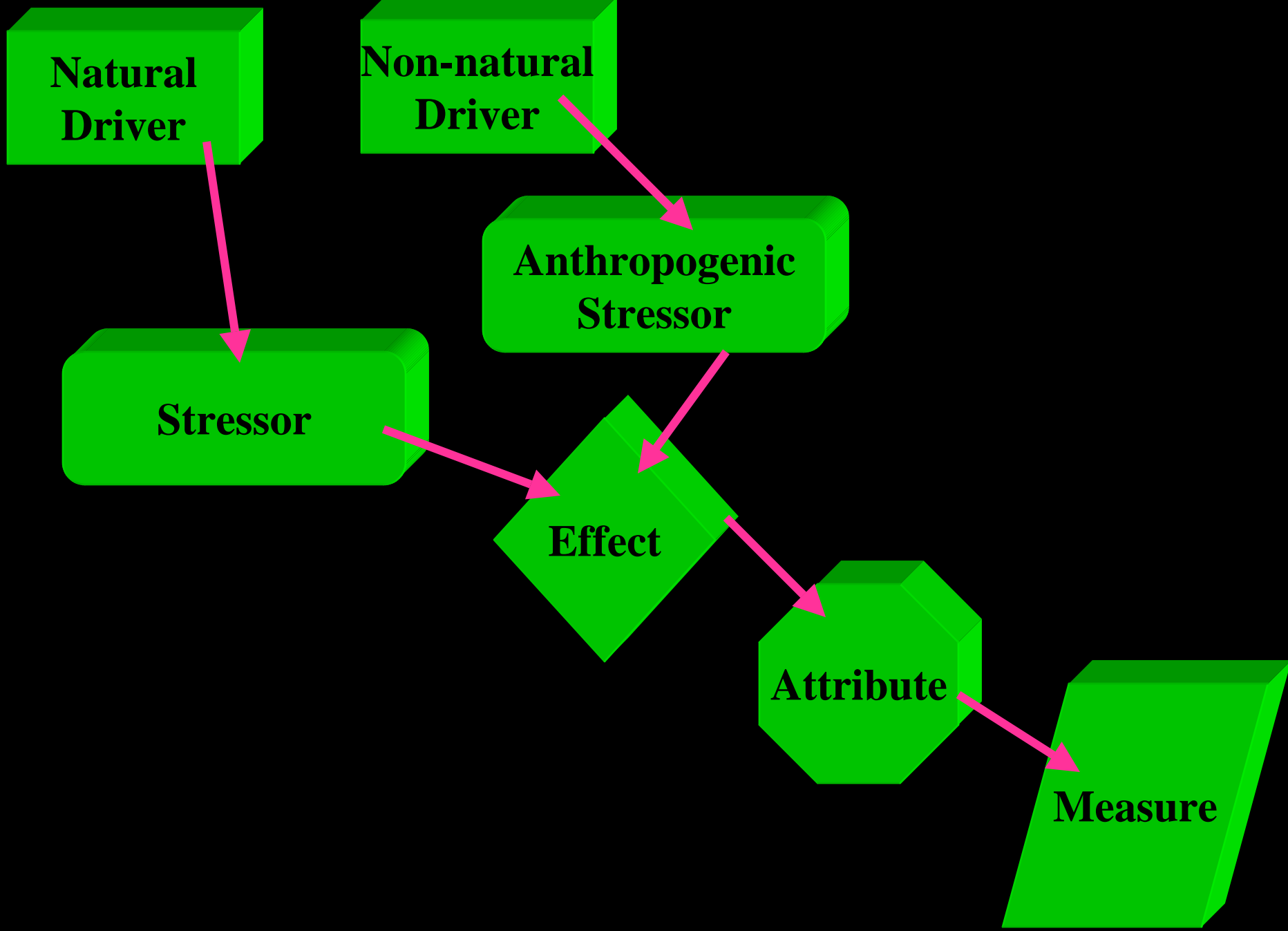
Drivers, Stressors, Effects and Attributes

- **Drivers:** external driving forces that have large scale influences on natural systems (e.g., sea level rise or regional land-use programs).
- **Stressors:** Physical or chemical changes that occur within natural systems that are brought about by drivers, and which cause significant changes in the biological components, patterns and relationships in natural systems.
- **Ecological effects:** biological responses caused by the stressors.
- **Attributes:** represent the known or hypothesized effects of the stressors (e.g., numbers of nesting wading birds), and the elements of the systems that have important human values (e.g., endangered species, sports fishing). Attributes typically are populations, species, guilds, communities or processes.



Restoration Components Address Stressors

- Stressors are known or hypothesized to be the immediate source/cause of ecological condition/problem
- Successful restoration must eliminate or ameliorate unnatural stressors acting on the natural systems
- A Performance Measure describes the stressor and how that stressor should be measured, and how that stressor must change in order to neutralize its adverse effects
- Performance Measures possess targets for each stressor

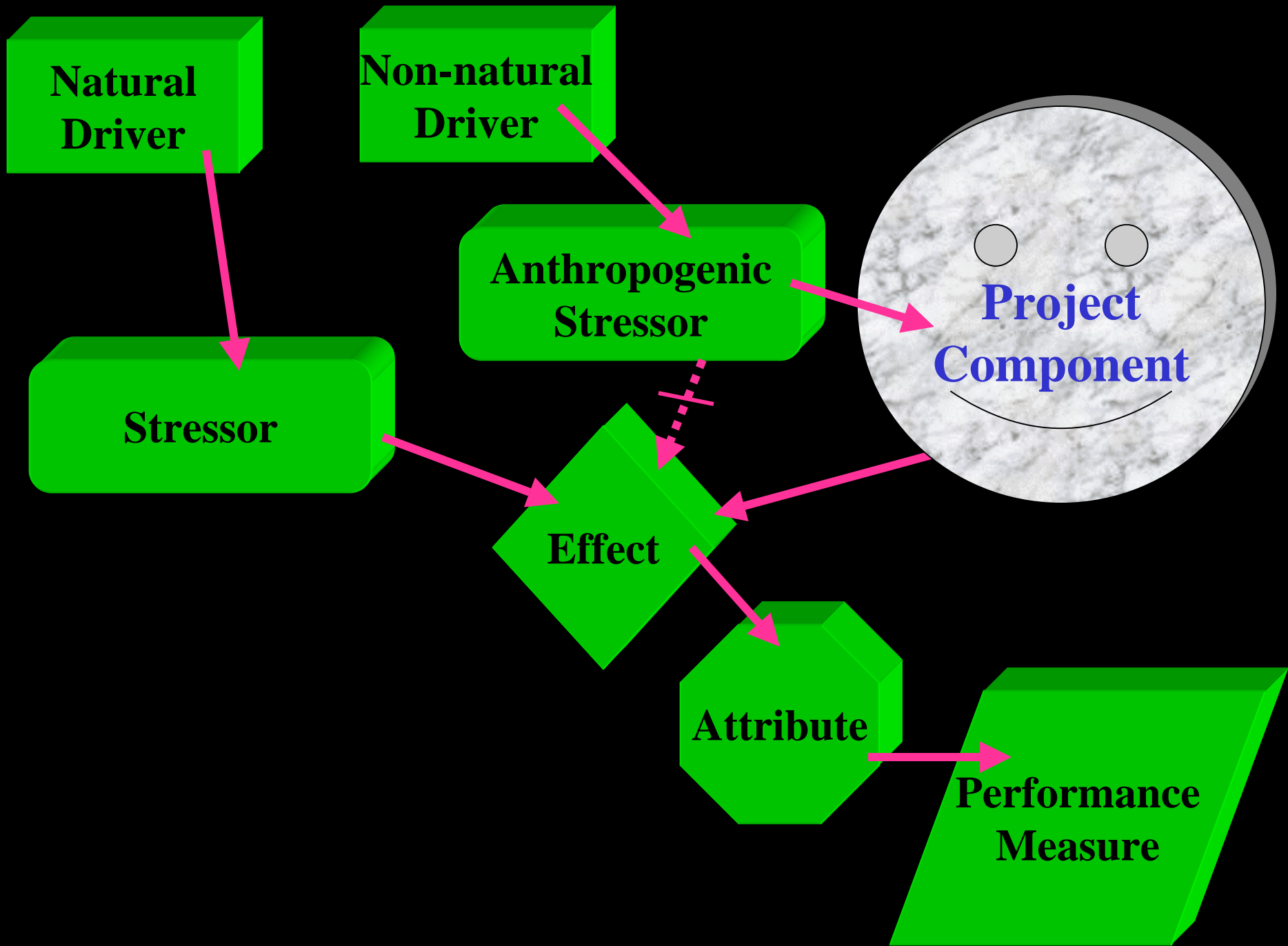


Performance Measures

- consistent with the conceptual ecological models
- attribute-based and/or stressor-based
- qualitative measures or indicators of progress toward specified outcomes or benchmarks
- important to identify critical tasks that are worth measuring
- choose fewer metrics, not more
- base the metrics on controllable factors
- monitoring performance can become very costly if written to check every task, every day for 100% compliance

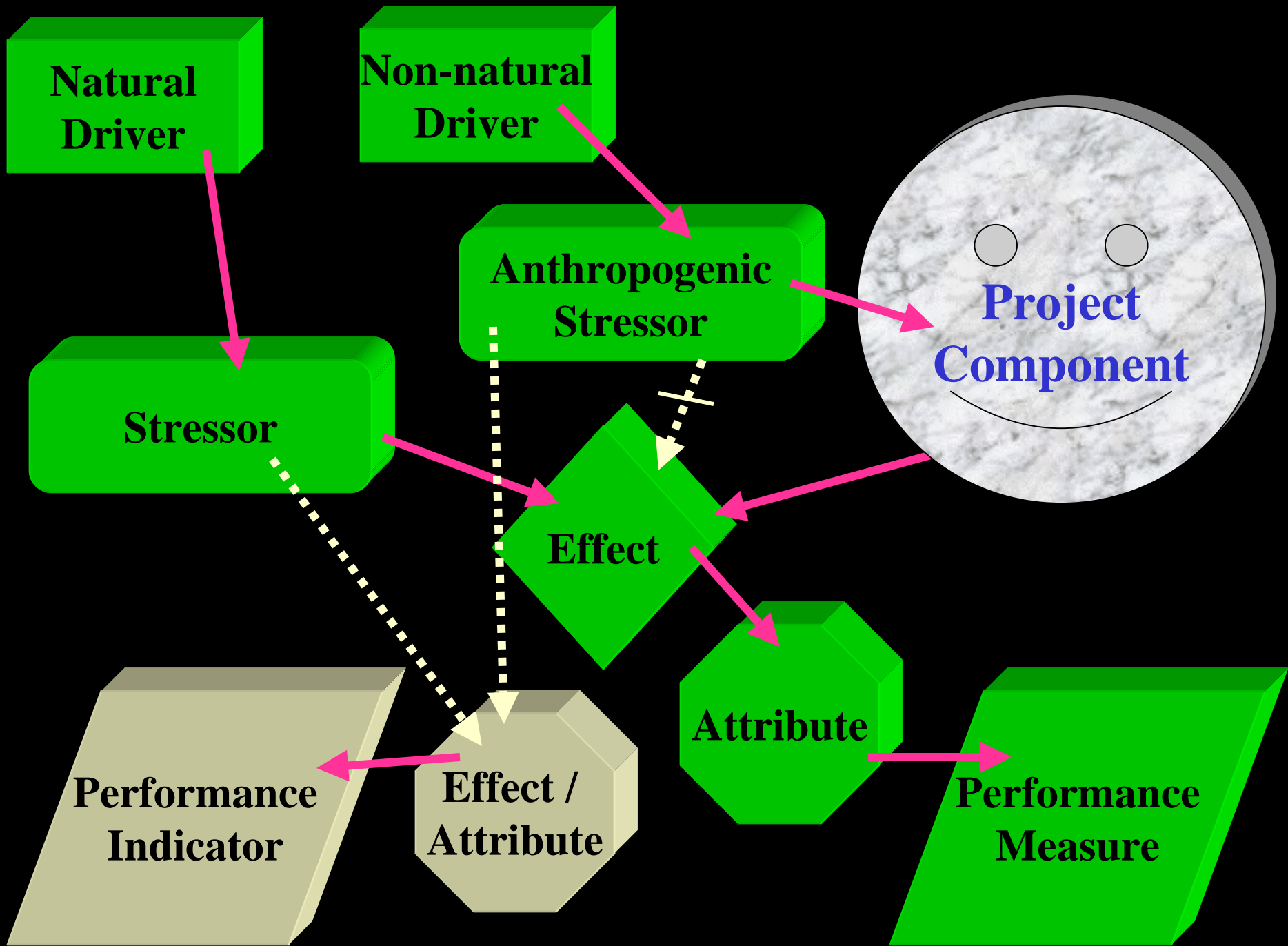
Performance Measures

- can be quantified, and must be quantified, within a monitoring perspective, in order to evaluate the success of the project
- are directly related to the implementation of project features on an established scientific basis of expectations
- possess either a defined target or a desired direction of change



Performance Indicators

- May or may not be quantifiable
- indirectly or distantly related to the implementation of features
- inclusion in monitoring plan to evaluate indicator is dependent on prioritization scheme which seeks to balance availability funding,
- importance of indicator to overall system function and health,
- relevance of indicator to project objectives,
- and expectations that project implementation will affect indicator



Supplemental Information Needs

Information critical to understanding processes and events, e.g., rainfall, flows, changing landuse patterns

Performance Measures
Performance Indicators
Supporting Information