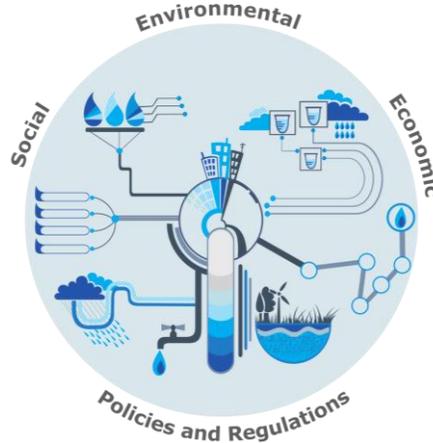


Managing complex socio-environmental challenges is a daunting task. Such challenges are often the product of environmental factors past and present, with potential solutions shaped by economic and social drivers governed by norms and policies. No one part of the system is truly isolated from another.

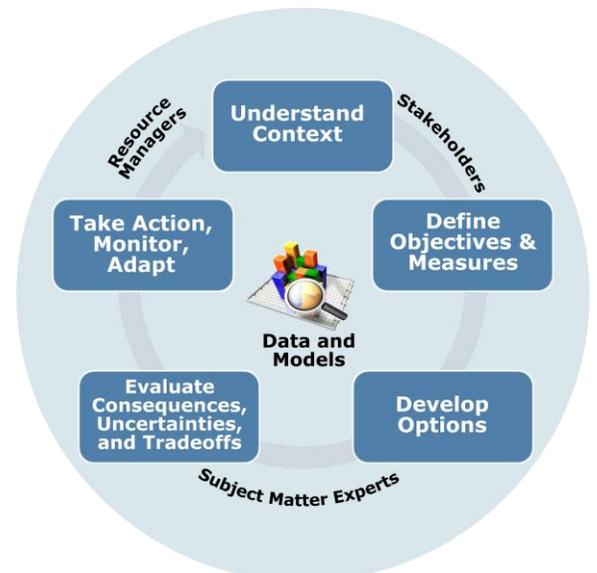


*In 1992, Neptune and Company, Inc. (Neptune) was founded with a simple mission: to improve the quality of environmental decision making through the application of state-of-the-art methods in quality assurance, data science, and risk assessment.*

Structured decision making (SDM) provides a transparent framework to develop optimal solutions to such complex problems. Using SDM, we can achieve a common understanding of objectives, develop a rich set of options, and conduct science-based consequence modeling. This approach solves complex problems in a reproducible, technically defensible, and transparent manner.

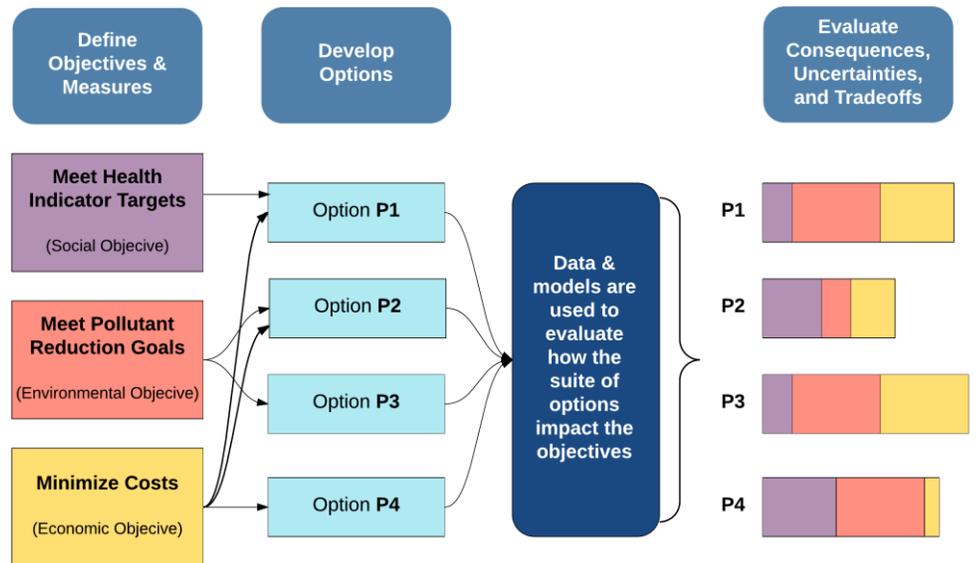


Neptune works with stakeholders, subject matter experts, and risk managers to solve difficult problems. Stakeholders are actively involved at all stages of the process. We emphasize the importance of clearly communicating judgments about costs and values, uncertainty, and decision risks. This is not always an easy process, but if successfully executed, this ultimately builds ownership of the decisions that arise from the process, and builds consensus across the affected community.



Neptune's approach to SDM is incorporated into an open-source, web-based tool called Guided Interactive Statistical Decision Tools (GiSdT). GiSdT facilitates "what-if" analyses by decision-makers, and helps identify potential trade-offs between solutions. The figure shows a hypothetical GiSdT analysis that estimates the trade-offs between social, environmental, and economic objectives.

GiSdT exemplar of designing a set of programs that satisfy a suite of social, environmental, and economic objectives



## Neptune and Company, Inc

Neptune is a small, employee-owned business that specializes in (1) statistical analysis and quality assurance of health and environmental data, (2) characterization of risk to human health and the environment, and (3) development of decision analysis methods/software to facilitate all forms of risk management.

Neptune has a long history of supporting governmental programs

designed to protect health and the environment, including the US Environmental Protection Agency (EPA), regional EPA offices, state environmental protection agencies, the US Department of Energy (DOE), the Nuclear Regulatory Commission (NRC), and the Department of Defense (DoD), as well as health and environmental safety programs for selected private clients. In addition, we support the US Food and Drug

Administration's (FDA) food safety programs, the National Institute of Food and Agriculture (NIFA), and the US Agency for International Development (USAID) malaria vector control program. Neptune employs a multidisciplinary staff of over forty statisticians/data scientists, decision analysts, mathematical modelers, risk analysts, chemists, toxicologists, health scientists, and ecologists.

### Main Offices:

1435 Garrison Street  
Lakewood, CO 80215  
(720) 746-1803

1505 15<sup>th</sup> Street, Suite B  
Los Alamos, NM 87544

[www.neptuneinc.org](http://www.neptuneinc.org)

**Paul Black, CEO**

(720)746-1803 ext. 1001  
[pblack@neptuneinc.org](mailto:pblack@neptuneinc.org)

**Kelly Black, President**

(720) 746-1803 ext. 1005  
[kblack@neptuneinc.org](mailto:kblack@neptuneinc.org)