Ars Botanica & Natural Resource Management: Bridging Research and Education

The challenges of Natural Resource Management (NRM) over the next thirty years are extensive. Technology must adjust to the continuously changing world of resource management, biodiversity, and educational research concerns. These products must be adaptable to a number of senarios and should be cost effective within those boundaries while still meeting the unique needs of in-field research. The Ars Botanica system, a network-based software solution developed by the authors, offers a tremendous range of possibilities in NRM for students, researchers, companies, and governmental organizations.

Ars Botanica is poised to offer viable solutions to some of the most challenging NRM situations that exist today. Long Term Stewardship Programs in the U.S. can be made more cost effective by empowering a variety of government agencies with common concerns (DOE/DOD/EPA/ etc.) to share information in a cyclical manner that is inductive as well as deductive. This would give monitored sites the opportunity to catch necessary modifications early, and to adjust management approaches more easily. Progressive remediation programs can be implemented where they were previously not considered because of technological concerns, allowing solutions to be more easily realized.

Additional concerns lie in world-wide monitoring and treatment of Persistent Organic Pollutants (POPs) - an operation which is paramount to oceanic environmental observation and research. The utilization of Ars Botanica by sources whose primary concern is addressing POPs could speed up their acquisition of on-site data, while facilitating sharing and communications between researchers. In this manner, summarized data and implementable solutions could more readily be acted upon.

The Ars Botanica system is designed to facilitate environmental investigations as well as botanical propagation and educational research, be it on varied, individual targets or large-scale resource management. The system was designed with flexability that allows it to be adapted even to factors that are unknown at the time of its creation, so that it may record and analyze situations only realized as the field of NRM evolves. Being a web-based system, it will allow unprecedented collaboration while maintaining isolated privledges for those who are critical to only specific areas of research. In order to make the system easy to use, unique attention has been given to the interface, utilizing paradigms that are universal even to those with little computer experience. Additionally, there exists the capability for automated data-collection systems to send information to the system, creating the opportunity for monitoring factors in real-time.

Environmental communications are the pebble drop to effectively administering NRM in an resourceful manner. Ars Botanica can communicate data, previously unable to be conveyed, in user-friendly fashion to shareholders and their interests. Its isolation from hardware dependency allows that as communications systems change and expand, the Ars Botanica program can change with them, making it an ideal program for long term projects, and closed end research alike. In our time of ceaseless technological advancement, the adaptability of Ars Botanica, coupled with its unique features, makes it a solution for serious investigations with wide scope.

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