

THE NATURE CONSERVANCY • DOW
—COLLABORATION—
2012 PROGRESS REPORT



Working Together to Value Nature

In January 2011, our two organizations came together to undertake an experiment to incorporate the value of nature into business decisions. Our goal was to apply methods to evaluate the benefits nature provides – such as fresh water, clean air, and flood protection – and develop a roadmap for how companies can assess, incorporate and invest in nature and these benefits. Today, we release our second annual progress update, highlighting the work completed at our first two pilot sites, and the conservation impacts that may be achieved from our analysis.

We knew we were taking on a significant challenge in this collaboration. Calculating nature's value to a company, community and the world isn't easy. Advancements are needed to develop tools that allow companies to value both the private and social benefits of nature. Over the first two years, our scientists and staff have learned from each other as we have worked to develop and test our methods. For example, both Dow and the Conservancy have learned how to incorporate ecological information into decisions.

Our first progress update last year focused on the launch of our pilot project in Texas and the identification of our second pilot in Brazil. In year two of the collaboration, we completed analysis at Dow's Texas Operations in Freeport, and launched our work in Santa Vitória, Brazil. Our work in Texas has enhanced our understanding of the role that ecosystems can play in maintaining air quality, water supply, and coastal hazard protection at an industrial site. In this update, we share these results from our analysis at Dow's largest global production site. In Brazil, we have identified an opportunity to include ecosystem values in planning for agricultural production and site development.

Our collaboration represents a unique joining of the non-profit and for-profit sectors to initiate significant change in both conservation and business decisions. Both of our organizations are unwavering in our commitment to share the methods and results of our work, and demonstrate how other companies can more fully incorporate the value of nature into their decision-making – increasing their investment in protecting the planet's natural systems and the services they provide.

We look forward to hearing your feedback on our work to date, and welcome your thoughts on the direction of our collaboration in the coming year.

Sincerely,



Neil Hawkins
Vice President, Global EH&S and Sustainability
The Dow Chemical Company



Glenn Prickett
Chief External Affairs Officer
The Nature Conservancy



OVERVIEW

At the start of 2011, The Dow Chemical Company and The Nature Conservancy embarked on a novel collaboration to help Dow and the business community recognize, value and incorporate nature into business decisions, strategies and goals. The collaboration embraces a theory of change that the inclusion of ecosystem service and biodiversity assessment models in business decisions have the potential to produce stronger business performance and improved conservation outcomes.

The two global organizations are applying scientific knowledge and experience to develop and apply methods and tools for companies to use by examining how Dow's operations rely on and affect nature. Nature provides benefits, often called ecosystem services, which we all depend on. However, our activities can impact nature in ways that limit our ability to rely on them.

The collaboration is exploring opportunities to bring the value of nature into business decisions across Dow – at the corporate level and at sites around the world. Initial efforts have focused on large pilot analyses, where we are investigating tangible examples in detail at Dow sites, starting in Freeport, Texas, and Santa Vitória, Brazil, to develop evidence and tools.

The collaboration's work will ultimately be incorporated into a broader framework of

decision support tools and modules to help address business decisions organization-wide. In the remaining years of the collaboration, we will continue to advance the development of methods at pilot sites, as well as expand into other scales of decision-making. The collaboration is committed to sharing results and tools publicly through various communications and peer-reviewed publications for other companies, scientists and interested parties to test and apply. Further, the collaboration has begun to share our experience with policymaking authorities and key resource stakeholders. As more companies use these methods and tools, greater investment in conservation should follow because such investment makes good business sense.



Dow and The Dow Chemical Company Foundation are collectively committing \$10 million to the collaboration.

PROGRESS TO DATE

In the second year of the collaboration, the Conservancy and Dow worked together to conduct three analyses at Dow Texas Operations, located in Freeport, Texas. The initial results of these analyses are included below. The collaboration also announced and started work on the second pilot, located in Santa Vitória, Brazil.

Methodology

In 2011, we identified our first two pilot sites. The objective was for pilots to demonstrate the benefits of incorporating biodiversity and ecosystem services (BES) into business decision-making, and to have the potential for direct and tangible conservation and societal benefits at scale. These sites were chosen through a process that included evaluation of:

- Material, priority and critical business decisions or concerns that involve BES.
- Critical-to-Dow ecosystem services and/or a site in an area of high biodiversity and/or ecosystem risk/value.
- Sites where advances can be made in the development of methods for integrating and valuing ecosystem services at a landscape level, and where outcomes are relevant and replicable at multiple Dow sites and for other businesses.

Once sites were selected, a scoping process was conducted with site leadership and staff to identify the ecosystem service impacts and dependencies of the site. These were prioritized by significance to determine the best candidates for analysis.

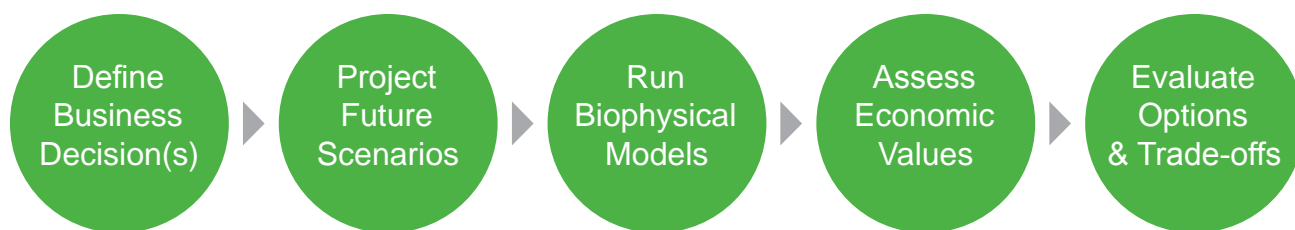


Figure 1. Approach to collaboration at pilot sites to incorporate ecosystem services in business decisions

The analysis methodology (**Figure 1.**) starts with defining specific business decisions that may be influenced by the availability of highest priority ecosystem services. Next, we collected and/or modeled future scenarios, which influence those decisions and used them as inputs in biophysical landscape models. The scenarios were assessed to determine how they would influence the change in ecological systems and the services they will provide in the future. Finally, we conducted economic analysis to assess how ecological values change over time to allow the comparison of both “green” (natural infrastructure) and “grey” (engineered, man-made structure) options. This was done using dollar values where possible, but other quantitative and qualitative values were also used. This process was not always linear; there was learning and iteration along the way as new information about decisions and information needs emerged and the application of ecological information became clearer.

Pilot Site Activities



Pilot #1: Dow's Texas Operations at Freeport

Texas Operations at Freeport is Dow's largest integrated manufacturing site, and the largest single company chemical complex in North America. Texas Operations manufactures more than 40% of Dow products sold in the U.S. and more than 20% of Dow products sold globally. It is also located where the Gulf of Mexico, the lower Brazos River and the Columbia Bottomlands all meet, a network of freshwater, marsh and forest ecosystems that are critical not only to Dow's operations but to fish and wildlife, agriculture and local communities.

The Freeport pilot focused on three ecosystem services upon which the Texas Operations facility and conservation in the region depend, and provided an opportunity to advance ecosystem science and conservation strategies that could have significant impact on these priority resources:

- Improving air quality through reforestation
- Mitigating coastal hazards with natural infrastructure
- Preventing disruption to freshwater supply

Highlights of the results of the analyses are presented below. Comprehensive final results will be submitted for peer-review publication in the first quarter of 2013 and released on the collaboration websites (nature.org/dow & dow.com/sustainability/change/nature_conserv.htm).

ABOVE Dow's Texas Operations manufacturing site.
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Air Quality via Reforestation

Like many major manufacturing operations in urban areas, Dow Texas Operations is in a non-attainment area for ground-level ozone, and thus subject to limits on ozone precursor emissions. Ozone is not emitted directly, but forms when precursor pollutants – NO_x and VOCs – interact in the atmosphere in the presence of sunlight. Compliance costs for Dow and other companies in the region are growing as they invest in increasingly expensive at-source engineered solutions as ozone precursor emission limits are further tightened. Taking advantage of the fact that trees directly remove air pollutants such as NO₂ and ozone, reforestation has been identified by the U.S. Environmental Protection Agency (EPA) as a potential air quality improvement strategy. This is a first test case of assessing how this strategy could be designed and implemented.

Conservancy and Dow scientists, in collaboration with external experts, conducted detailed modeling. The modeling results demonstrated that reforestation could be a cost-effective emissions abatement strategy when compared to the end-of-pipe control technology currently deployed. This approach also provides broader benefits to Dow and local communities.

Analysis of a test case in southeast Texas found that reforestation can be a cost-competitive method to generate NO_x emissions credits. The hypothetical 1,000 acre project, estimated to cost \$470,000 to implement, would be expected to remove quantities of ozone and NO₂ equivalent to a range between 122 and 202 tons of NO_x total over the next 30 years, at a cost of \$2,400 to \$4,000 per ton of NO_x. The cost

per ton compares to the estimated industry NO_x control costs range, from about \$2,500-\$5,000 per ton of NO_x for traditional NO_x abatement strategies (**Figure 2**). The analysis assumes that reforestation could occur on land owned by Dow, the State of Texas or the Conservancy. The analysis also assumes the planting of tree seedlings.

A key benefit of using reforestation for NO_x control purposes is that projects can be tailored to achieve specific quantities of NO_x removal, making this strategy particularly well-suited to projects requiring relatively small quantities of NO_x removal.

While it has comparable costs for NO_x removal relative to engineered options, there are additional benefits to both Dow and society from planting a forest instead of installing traditional control technology. Carbon stored by a 1,000-acre forest could result in avoided climate costs to society at large, in terms of health costs, lost output, and infrastructure damage. The carbon stored by the forest may be eligible for offsets on California's regulatory carbon market or on voluntary U.S. carbon markets.

New forest could also add important habitat for wildlife in a region that has lost much of its forests. Not only was there significant tree mortality during the drought of 2011, but historically, approximately 75% of the bottomland hardwood forest has been lost. Depending on the location of the forest project, reforestation could bring recreational opportunities, increased property values, and other benefits to local communities.

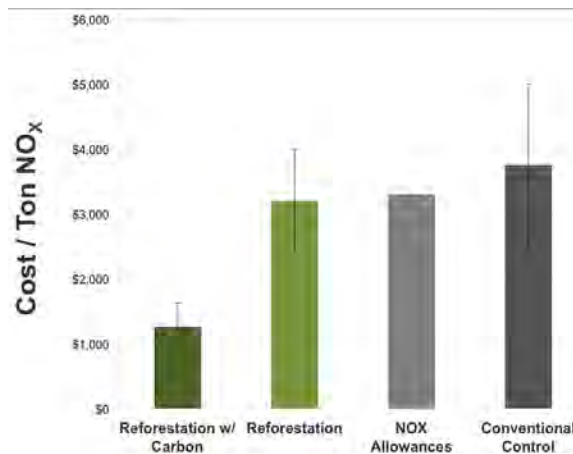


Figure 2. Estimated cost for removal of a ton of NO_x, comparing a reforestation project (with and without carbon credits) with NO_x allowances and conventional pollution control alternatives.

The collaboration team has been working with the Texas Commission on Environmental Quality (TCEQ) to familiarize key agency staff with the reforestation concept, coordinating with Dow Texas Operations' personnel and the Conservancy's program in Texas. TCEQ is interested in exploring the adoption of reforestation as a means of NO₂ removal and has defined the next steps needed for reforestation to be included in Texas's State Implementation Plan (SIP). The EPA encourages states to adopt "emerging" and "voluntary" measures into SIPs, and reforestation could be used for either. This new treatment, pioneered by the collaboration, is important and potentially far-reaching. Dow and other industrial companies would have the option to use reforestation to meet

FOREST AS BUSINESS SOLUTION

Reforestation is likely a cost-effective air pollution abatement strategy, while providing broader benefits to communities and wildlife.

emissions targets, upon approval by TCEQ and the EPA, and other regions could benefit from this new method to improve air quality.

Ecosystems and Coastal Hazard Mitigation

Dow Texas Operations is located in a low-lying coastal area on the Gulf of Mexico, susceptible to hurricanes, the impacts of which may be exacerbated by a projected sea level rise of 1.5 feet by 2050 in the Freeport, TX, area. Part of the site sits behind several miles of undeveloped land and coastal marshes.

Coastal habitats can provide protection against storms by mitigating erosion and flooding caused by regular wave action, storm waves and surges, and sea-level rise. Marshes, oyster reefs, and dunes can act as natural barriers and create friction, slowing down waves and surges. Marshes also actively grow, building land and helping counteract sea level rise.

Dow is currently analyzing a potential levee system in Freeport in a location where there are six miles of undeveloped land between the area of analysis and the Gulf of

Mexico. This area under study is a mixture of cattle grazing lands and coastal wetlands. By better understanding the benefits provided by coastal habitats, we can optimize "green" and "gray" solutions for natural hazard mitigation. Levee design that incorporates the role of habitat and sea level rise could help ensure the effectiveness of levees and potentially save on levee construction costs.

VALUE OF INFORMATION

Including the protective role of habitats and sea level rise in assessment of hazards at the Freeport site – two key pieces of information previously not considered in industry-standard modeling – allows Dow to refine their risk modeling process.

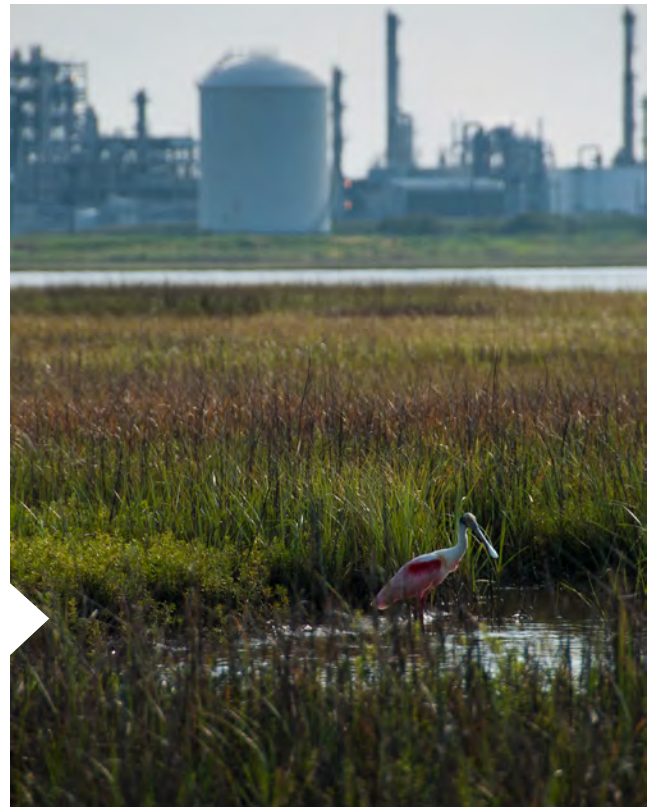
Working with scientists and modelers from the [Natural Capital Project](#), the collaboration developed new ecological and economic models that assess the protective value of coastal habitats. The collaboration team also worked with Dow's contracted catastrophe modeling company and other experts. The modeling concepts are still emerging,

and this pilot allowed us to test and advance them to inform a specific business decision about levee design.

Models indicate that the attenuating impact of coastal wetlands can reduce the destructive force of waves on protective levees, but more work is needed to model the potential for habitats to reduce the height of a storm surge at this location. While the collaboration's conservative assessment of habitat protection at this site does not indicate that protection is significant enough to warrant changing the current levee design, it demonstrates that coastal habitats may provide valuable protection. In this case, our analysis showed that the estimated reduction in levee cost was approximately 2% on a multi-million dollar investment. In addition, these habitats protect local communities, sequester carbon, enhance fisheries, and support recreation and biodiversity. Storm damage protection is estimated to be \$23 million to the community around the Freeport site. The net present value of carbon sequestration over 30 years is calculated to be \$30 million, and recreation value is placed at \$130 million using multiple methodologies that corroborate our calculations. Twelve fisheries, hundreds of bird species, and many others benefit from these healthy marshes.

Through this pilot analysis, advances were made in linking ecological change to economic value in the context of a specific, actionable business decision. The analysis demonstrated the value of habitats in providing coastal protection and how that information could inform levee design. More work is needed to capture the full effect of habitats

on coastal flooding in analysis. Projected sea level rise had also not been incorporated in previous risk assessments at the Freeport site, and climate models indicate that sea level rise could result in less protective habitat and higher flood heights during storms. Preserving or enhancing coastal habitats could allow them to better keep up with sea level rise, reducing the amount of habitat loss.



ABOVE Dow's Texas Operations manufacturing site.
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ECOSYSTEMS AND RISK MANAGEMENT

In this emerging field, the collaboration made significant advances linking ecological change to economic value in the context of a specific, actionable business decision. Additional model development is needed to fully account for the role of habitats in levee design, but methods developed allow for inclusion of ecosystem services in natural hazard mitigation planning.



ABOVE Photo © Kendal Larson

Freshwater Supply

The Brazos River basin is facing major challenges. Currently, permitted demand exceeds supply 10% to 20% of the year. Water is critical for Dow's Freeport operations, as well as for other water users and wildlife in the basin. The 2011 drought in the region brought this issue to the forefront.

Trends in demand and climate may exacerbate these water shortages in the future. Total demand for water in the basin is expected to increase 54% by 2060, with municipal and industrial demand driving the increase. At the same time, climate models predict increased average temperatures, increased water loss from evaporation and potentially reduced flows in the Brazos. Climate models indicate that temperatures will be 1.9 to 5.3 degrees Fahrenheit higher on average by 2050.

To understand these trends, collaboration scientists incorporated the effects of predicted climate change and increased demand into existing models of the Brazos River basin to predict future water availability. Previous analysis had not considered these synergistic effects. The models predict that there will be more frequent and severe basin-wide water shortages, with the maximum length of shortages in the lower basin where Dow withdraws its water potentially increasing three-fold. This analysis confirmed projections of potential reduction of future freshwater flows

in the Brazos in studies conducted independently by Dow using historic flows, while adding new information about the influence of predicted higher temperatures.

NEW ECONOMIC TOOLS

Markets do not provide good indicators of the changing cost and value of water. Water pricing, natural capital asset valuation, and project evaluation that accounts for ecosystem service values provide businesses with needed new tools to strategically manage water.

The basin-wide economic losses from these water shortages over the next 30 years are projected to more than double from \$293 to \$600 million. This would place upward pressure on the cost of water – with prices rising 2 to 5-fold under typical conditions and possibly 50 to 100-fold under short-term extreme drought conditions.

Traditionally, companies may have projected the increasing costs to ensure supply of water. But

disruption to supply is not an option for most companies. In the past, companies may have assigned the variable costs of water, but today they recognize that in drought event disruptions (which are occurring more frequently) users will pay much more than the average cost of water to ensure water supply is not disrupted. Therefore, they must model costs based not on water when available (cost of water rights) but the cost during water interruptions (up to and including cost of desalination), and those loss impacts must be factored into cost comparisons. Ecosystem service models can help better predict the frequency of these drought events, improving financial models.

Nature-based and collaborative solutions may provide cost-competitive ways to improve the value of Dow's freshwater assets incrementally, while also benefiting other users and ecosystems.

Collaboration experts brainstormed potential response initiatives, which were narrowed to the following five that were analyzed in more detail:

- Wastewater reuse – construct wetlands to filter purchased municipal wastewater
- Reservoir flood pool reallocation – support the reallocation of flood pool storage at U.S. Army Corps of Engineers' reservoirs and complementary floodplain restoration
- Panhandle land management – replace high water-use invasive plants with low water-use native plants in the Texas panhandle
- Municipal Rebate – support rebate program for municipal users to buy water efficient

appliances or switch to native landscaping that does not require watering

- Agricultural Water Reallocation – support or fund improvements in irrigation technology and purchase saved water

All response initiatives, except for wastewater reuse, were found to be cost-competitive with the base solution of expanding Dow's existing reservoir system. In total, these initiatives have the potential to enhance basin supplies of water by 60,000 acre-ft per year. These types of solutions could complement traditional engineering approaches.

These responses also provide additional benefits to the public and ecosystems. For instance, together these initiatives could protect 21,500 acres of habitat and generate public benefits of at least \$10 million over the next 30 years. However, these actions have legal, political, and technical challenges, which would need to be addressed before implementing.

Companies are beginning to shift their thinking about water. Whereas it was previously considered an almost limitless, free or low-priced commodity, it is now recognized as a finite resource that needs to be considered when making strategic decisions. It is simply not an option to run out of water, and the importance of understanding the "economics of water" will continue to increase as higher demand and reduced supply lead to water scarcity around the world.

BELOW Photo © Jennifer Molnar/TNC



Pilot #2: Santa Vitória, Brazil

In June 2012, the collaboration announced its second pilot at the site of a cooperating joint venture company, Santa Vitória Acucar e Alcool Ltda. (SVAA), formed by Dow and Mitsui & Co., Ltd. The SVAA site is producing sugar cane, a key production input, in a 50km radius of the manufacturing facility.

The Brazil pilot site provides the collaboration with an opportunity to address new and different challenges from the Freeport pilot, while building on the analysis methods. The site is located in the center of agriculture production in Brazil, on the border between two environmentally significant areas – The Atlantic Forest and the Cerrado – in a region where less than 6% of natural vegetation remains. The land in the project area is mostly degraded pasture. SVAA is making decisions about where to plant sugar cane to supply its factory, while meeting restoration requirements in Brazil's Forest Code.

The collaboration will use this pilot to develop methods and tools to guide business decisions about agricultural land use to meet sugar cane production needs more efficiently, while also

optimizing biodiversity and ecosystem services benefits of forest restoration. Analysis will allow managers to assess trade-offs, whereas previously ecosystem services have generally been considered in isolation. Through this pilot, new valuation capabilities will be developed that combine landscape analysis with ecosystem service valuation and models.

By improving the consideration of ecosystem services and biodiversity in agriculture and site planning, it is hypothesized that profits can be increased while also contributing to the enhancement of biodiversity and ecosystem service values.

Pilot Site #3 - TBD

The collaboration is excited about the opportunities to expand work to the third pilot site. During the Freeport analysis, the collaboration team felt it prudent to select the third site based on the learnings from the first site. Therefore, the selection of the third site will be strategically delayed into 2013 to allow for a more informed selection.

Corporate Activities

In this past year, the collaboration convened a large group of subject matter experts from across Dow and the Conservancy to share knowledge and review business practices, learning from each other while advancing the science necessary for our work. Along with this sharing, the experiences of the pilots are being used to inform the development of tools and approaches to enable companies to incorporate the value of nature into their decision making. We are developing user-friendly tools such as Biodiversity and Ecosystem Services Trends and Conditions Assessment Tool (BESTCAT) and a broader decision support framework that can be used by Dow and other corporations.

Decision Support Framework

Building on the foundation of the detailed results from the Freeport pilot, the collaboration will develop a framework and tools to help inform a range of business decisions. Analysis of ecosystem services can inform decisions from capital investments to new site selection and land use.

Ultimately, ecosystem services will need to be embedded in business units globally, ranging from finance and site operations to strategic planning, remediation and marketing. We will develop, test, and deploy a series of modules that can be embedded into existing work processes to help identify, prioritize, and value ecosystem services in a variety of business contexts. Having an established system that provides practical options and guidelines for integrating ecosystems valuation methodology into appropriate corporate governance and decision-making processes will provide long-term benefits for land, water, air, biodiversity and the value of ecosystems to communities.

BESTCAT Tool

Many companies have turned to tools like social and environmental impact assessments, biodiversity action plans, and environmental management systems to identify, assess and plan operations. But a company looking to make biodiversity and ecosystem services a key part of corporate strategy, or to include them within sustainability reporting, requires a broader perspective. It can be challenging for companies to make related regional and global strategic decisions, due to the limited amount of biodiversity and ecosystem services information available on a global scale, difficulty in accessing these

global data, and working with data that is often not organized for business risk and opportunity analysis.

In order to address this challenge for businesses, the collaboration has created a web map tool: the Biodiversity and Ecosystem Services Trends and Conditions Assessment Tool (BESTCAT). It will provide businesses open access to global data and a user interface that allows them to easily compare and prioritize their current or future portfolio of assets with regards to biodiversity and ecosystem services. It will increase usability of these metrics by offering online mapping technologies, simple data input requirements, and production of reports.

In 2012, the collaboration completed the development of the biodiversity portion of BESTCAT and will release the tool for corporate use in 2013. The first version includes a set of five global biodiversity metrics: species diversity (both at the global and biome level), threatened species, habitat intactness, and habitat protection. In 2013, BESTCAT will be expanded to include ecosystem services as well.

Companies Valuing Nature

Forward-thinking companies are leveraging strategies that incorporate the value of nature to drive business benefits – including reducing risks

BELOW Photo © Jennifer Molnar/TNC



and costs, enhancing brand, and fueling growth. Earth's natural assets provide tangible business value that the private sector has a strategic interest in safeguarding. The business world must act independently and in concert with governments to achieve the speed and scale required to solve the most dangerous environmental trends threatening their livelihoods. One of the Conservancy's, and the collaboration's, goals has been to engage and build a stronger community of businesses valuing and accounting for nature.

In 2011, at the Clinton Global Initiative annual meeting, The Nature Conservancy, the Corporate EcoForum, and several major companies including Dow, collectively announced a goal of harnessing private sector commitments to protect critical "natural infrastructure" around the world. These commitments were announced at the Rio+20 Earth Summit in June 2012 and serve as a powerful demonstration of the economic logic for investments in forest, freshwater, and marine systems that produce goods and services pivotal to long-term business continuity and global economic growth.

Twenty-four major companies representing \$500 billion in combined revenue announced commitments demonstrating the business

imperative of valuing nature in a report released at the Summit, [The New Business Imperative: Valuing Natural Capital](#). Within the e-report, each of the 24 companies announced innovative new commitments of investments they were each making to protect nature they depended on or impacted.

The collaboration's commitment to ecosystem services was among those featured. The companies in the report aimed to demonstrate the importance of valuing nature as a necessary business strategy, and to inspire other companies to take similar action.

The commitments in the report are only the beginning. Only months later, the same group made a follow-on commitment at the 2012 Clinton Global Initiative annual meeting to expand the initiative to commitments from companies representing over \$1 trillion in combined revenue by the annual World Economic Forum meeting in Davos 2014, including global initiatives in Mexico, Australia and India.

The group will provide updates on progress toward achieving earlier commitments and demonstrate the substantial potential the private sector possesses to protect and restore natural capital to inspire this as a global business practice.



Years 2 & 3: Objectives and Progress

Objectives for Year 2	Status
1. Run environmental models, complete analysis, make significant progress on two and complete at least one ES economic valuation. Publish interim results for three areas of analysis at pilot 1 (Texas Operations at Freeport)	Completed
2. Scope and commence analysis at pilot site 2 (expected in Brazil)	Completed
3. Select third pilot site	Deferred
4. Test and publish the Biodiversity and Ecosystem Service Assessment Tool	In Progress
5. Outline the Corporate Conservation Framework to guide how methods from the pilots will be integrated across Dow's operations	In Progress
6. Continue developing and testing the integration of nature's value into business processes	Completed
7. Explore opportunities in U.S., Texas state and Brazilian policy – identify and potentially develop applicable joint policy positions to support ecosystem-related strategies and natural infrastructure investments and advocate for change	Completed
8. Continue to catalyze commitments of other business to integrate the value of nature into business decision-making and promote these efforts at Rio+20 and the Clinton Global Initiative	Completed
9. Evaluate recent conservation activities by Dow and propose improvements (e.g., investing in the protection of forests, lakes or rivers that might protect essential ecosystem services for Dow or society)	Deferred
10. Identify and pursue opportunities for applying ecosystem service-related business strategies at select sites and businesses, in addition to pilot analyses	Deferred
11. Develop written and web-based materials that share the work of the Collaboration	Completed

In Progress
 Completed

Items highlighted in yellow are in progress and continuing in 2013. Item 3 was delayed so it could be informed by experiences from the first two pilots. Items 9 and 10 are planned to be pursued in future years of the Collaboration.

Objectives for Year 3

1. Finalize and publish Freeport pilot results
2. Conduct analysis for Santa Vitória pilot
3. Identify third pilot site
4. Identify and evaluate three novel green infrastructure projects
5. Finalize and release BESTCAT tool
6. Continue development of the decision support framework
7. Continue to catalyze commitments of other businesses to integrate the value of nature into business decision-making. Promote these efforts at the Clinton Global Initiative and other key venues, expanding global participation in the initiative
8. Continue to explore opportunities to pursue joint policy positions that support ecosystem-related strategies and natural infrastructure investments with the U.S. Government, Brazil Federal and State Governments, and Texas Air Quality mitigation approach

Looking Forward

In addition to conducting analysis at the Brazil pilot and selecting the site for the third pilot, the collaboration will advance a number of new initiatives in 2013:

- Publishing papers in appropriate peer-reviewed scientific journals to describe the results from the Freeport pilot
- Identifying three green infrastructure projects at Dow sites where the team can determine the viability of natural infrastructure supplanting man-made engineered solutions
- Integrating ecosystem services data into Version 2 of BESTCAT, releasing the new version, and publishing a paper on its capabilities and practical applications in scientific literature

Building on the results of the first pilot, we will define the requirements and design a new tool for fast, effective ecosystem identification, characterization, and high-level valuation. This new tool will enable managers and technical staff at industrial sites (Dow and others) to gain understanding and the ability to communicate the value of natural infrastructure and ecosystem services. Ultimately, the tool and associated practices will form the basis of a broad ecosystem service framework for integrating nature into corporate practices.

Fulfilling its stated mandate, the collaboration will share advances and learnings through presentations at various forums. Further, we will seek to bring the science and the business principles to a host of policy venues in order to affect changes that will lead to greater conservation and sustainability outcomes that are measurably good for businesses.



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COLLABORATORS

Natural Capital Project – provided technical assistance and expert input on Freeport coastal hazard modeling and Brazil pilot design.

University of Minnesota – [Dr. Stephen Polasky](#) has been instrumental in providing strategic input for both pilots.

Analysis work also contracted from:

Researchers at University of Florida ([UFORE](#): Urban Forest Effects Model).

Researchers at University of Washington ([VIC](#): Variable Infiltration Capacity hydrological model). HDR, Inc. ([WAM](#): Water Availability Model)

Warren Pinnacle Consulting ([SLAMM](#): Sea Level Affecting Marshes Model)

