Creating opportunity in a financial crisis
Simplifying Natural Resource Management in Minnesota

In the middle of every difficulty lies opportunity.
– Albert Einstein

Creating opportunity in a financial crisis

Simplifying Natural Resource Management in Minnesota

The pair of Chinese characters on the cover – wēi and jī – together represent wēi-jī, the idea of a "crisis." Taken separately and simplistically, they are popularly said to represent "danger" and "opportunity" – as if opportunity arises spontaneously in every crisis. However, more scholarly analysis of the complex lower element suggests not so much an opportunity as merely the "dynamic of a situation's unfolding, when many elements are at play." [1]

Albert Einstein's claim that opportunity lies in the middle of every difficulty is perhaps more instructive. Unless we choose to act decisively when we encounter opportunity, it simply lies there unutilized as difficulties continue to unfold. Taking advantage of potential opportunities that may be present in a crisis requires bold and timely action and demands visionary and tenacious leadership. A difficult situation is unfolding, many elements are at play. Can we find the wisdom and will to act creatively and constructively?

Our impending state budget shortfall certainly poses difficult (some might even say dangerous) challenges. Our Governor is suggesting selling off commonwealth resources to address our looming deficit. State agency personnel are living in fear of massive budget cuts and potentially large scale layoffs. Numerous state programs, some perhaps dubious but many very effective, may be on the chopping block. Without draconian budget cuts or significant tax increases, our spending will exceed our revenue. Since we are required to balance our State budget, something has to give.

At the same time, our current financial crisis provides the Legislature with an extraordinary opportunity to develop more effective means of delivering services to Minnesota citizens. Capable and dedicated state employees often find their best efforts thwarted by convoluted bureaucracies and cumbersome processes that have been cobbled together, piecemeal, over a century and a half. As we look forward to another 150 years of statehood, it is a good time to consolidate our progress and to simplify our governance procedures.

Minnesota's diverse natural resource agencies and programs, in particular, would benefit from a comprehensive and coherent reorganization. Our Department of Natural Resources (DNR), Pollution Control Agency (PCA), and Board of Water and Soil Resources (BWSR) each have complex histories that have led to a too-often incoherent mélange of mixed mandates and overlapping jurisdictions. Despite the best efforts of competent and dedicated professionals, natural resources protection is frequently far less than fully effective and our regulations are as frequently overly complex and confusing. We can do better, much better.

As indicated by recent passage of the Clean Water, Land and Legacy Amendment, there is broad and deep public appreciation and support for natural resource management in Minnesota. Unfortunately, the Amendment's coincidence with an overall state budget crisis makes it tempting to shift general fund dollars away from natural resources and toward other worthy but financially strapped programs. It is critically important that we resist this trap and use Amendment dollars to bring about strategic changes rather than merely buffering business as usual.

What follows is a very brief sketch outlining timely opportunities for a comprehensive reform of the relationship between state and local government. At its core, this proposal focuses specifically on improving the cost effectiveness, regional adaptability, citizen accountability, and long-term sustainability of natural resource management in Minnesota. It also has direct implications for everything from agriculture to public education. Most critically, moving in the directions described will provide the basis for a green infrastructure that will be essential to the development of a truly sustainable Green Economy.

The ideas proposed below reflect numerous conversations with personnel from various state and local agencies as well as many interested citizens and legislators. The points raised are intended to initiate and foster a broadly constructive dialogue. The scope of the proposed changes will, in the short term, be very disconcerting to many and will undoubtedly encounter skepticism and even vigorous resistance. Nonetheless, these changes are needed and we are at a unique historical moment with an opportunity to improve natural resource management and the effectiveness of governance.

Overview

Ten specific steps toward taking advantage of opportunities latent in our current budget crisis follow. In sequence, they begin with the simplest and most obviously necessary changes and proceed toward more complex and comprehensive reforms. After initially listing proposed changes, the broader rationale and implications of each idea are considered in turn.

(1) Adopt watersheds and basins as fundamental natural landscape units
(2) Embrace and share a statewide Geographic Information System(GIS)
(3) Encourage and reward citizen interest and involvement
(4) Make a decisive commitment to a sustainable Green Economy
(5) Eliminate practice of politically appointing agency leadership
(6) Create a single, comprehensive resource management agency
(7) Move toward fully web-based processes (e.g., One-Stop Permitting)
(8) Enhance compliance and enforcement capacity
(9) Reorganize counties along watersheds lines
(10) Establish a real bicameral legislature or adopt a unicameral model

(1) Adopt watersheds and basins as natural landscape units

Economically and ecologically, water is the lifeblood of Minnesota. Because climate induced changes in the hydrologic cycle are likely to be especially pronounced at our mid-continent, mid-latitude location, all natural resource management in Minnesota should reflect this reality. We are uniquely positioned atop North America: precipitation falling on our state eventually drains south to the Gulf of Mexico, east to the Atlantic Ocean, or north to Hudson's Bay.

Watersheds and larger encompassing basins are stable, naturally occurring landscape units (see illustration). As such, watersheds provide an appropriate geographic foundation for natural resource management and planning. Fisheries management areas should obviously coincide with watershed units. More subtly, agricultural and forestry practices influence both water quality and hydrology so watershed-based management will provide an integrated measure of the sustainability of prevailing land-use practices. Virtually all precipitation falling within a given watershed exits through a single, easy to monitor 'pour point.' Consequently, the cumulative impacts of human activities occurring within a watershed are reflected in the quality and quantity of water leaving that watershed.

Water planning in Minnesota is currently conducted at the county level. This practice is, quite frankly, absurd. Water flows without respect to county boundaries (see Issue I, Beltrami County Comprehensive Local Water Management Plan[2]). All water planning should be immediately shifted toward more rational watershed-based units. Fortunately, recently introduced legislation (e.g., House File #2536) moves us in this direction.[3]

Finally, adopting an explicitly watershed-based perspective for all natural resource management in Minnesota is an essential first step in establishing the informational infrastructure of a sustainable Green Economy.

(2) Fully embrace statewide Geographic Information Systems (GIS)

To fully implement a watershed based approach to resource management, high quality spatial data are absolutely critical. Such data must also be freely shared among all management entities from the local to the state and federal level. The DNR's Data Deli is a step in the right direction. In addition, these data and appropriate analytical tools should be freely and readily available to the general public.

One specific example will serve to illustrate both the need and potential significance of adopting this step. **Li**ght **D**etection **a**nd **R**anging (LIDAR), an optical remote sensing technology, is capable of providing both very high resolution imagery and extremely precise elevation data. Presently, LIDAR

data are being collected piecemeal by counties and individual watersheds. It would be much more cost effective to simply fly the entire state (ideally on a 5-10 year rotation) and make the data freely available. Indeed, this would be an excellent upfront investment of Amendment revenues in the first year.

LIDAR data would provide more accurate and precise delineation of watersheds and would allow us to correct current errors. For example, based on existing watershed data, Lake Julia which drains to Red Lake and ultimately to Hudson Bay, is erroneously shown draining south through the Turtle River to the Mississippi River. Perhaps most importantly, LIDAR data allow preliminary project surveys with limited field work and thus dramatically reduce cost of management activities. In addition, periodically collected LIDAR data would provide a very cost effective tool for monitoring and enforcement activities related to wetlands and waterways.

(3) Encourage and reward citizen interest and involvement

Citizen participation in resource monitoring, management, and protection greatly increases the return on investment of state revenues. For example, the PCA's Citizen Monitoring programs yield high quality data on lakes and rivers at a fraction on the cost that would be required to use agency personnel. Similarly, the recently enacted Star Lakes and Rivers Program promises to provide comprehensive citizen-based management and protection efforts.

Targeted property tax incentive for citizens adopting land management practices that protect and enhance critical ecosystem services should also be considered (it may also be appropriate to levy additional taxes on citizens behaving in ways that compromise commonwealth resources; see Item 8).

Coordinated educational efforts regarding resources and ecosystem services are also vital and need to be better integrated with formal curricula at all levels as well as being delivered effectively to specific target audiences.

(4) Make a commitment to create a sustainable Green Economy

Transitioning to a sustainable Green Economy will require more than adopting new technologies and encouraging alternative fuels. A Green Economy will require a longer time horizon than that which prevails in most societal decision making. It will also require political decision making that considers more than simply short-term and self-interested economic expediency (see Item 10).

Paraphrasing Aldo Leopold from his classic essay "Land Ethic," we need to realize that we are not conquerors of earth's community but are instead "plain members and citizens of it."[4] If we truly want a Green Economy, the first step will be to recognize that our economic well-being is entirely dependent on maintaining the long-term integrity of ecological processes.

(5) Eliminate practice of politically appointing agency leadership

Politically appointing executive leadership of natural resource agencies is an inexcusable travesty. Effective resource management must be based on the best available scientific and demographic data and must be not subject to the shifting whims of political ideologues. A sustainable Green Economy needs to be grounded in longer term thinking than election cycles allow. Agency leadership positions should be determined based on an open and competitive evaluation of leadership skills and appropriate technical expertise.

Scientific data are seldom, if ever, sufficient to provide a basis for sound decision making. On the other hand, precise and accurate data are absolutely necessary if we wish to avoid making grievous ecological mistakes. In addition to data, effective resource management in a Green Economy will require coherent and explicitly stated values and goals.

(6) Create a single, comprehensive resource management agency

DNR. PCA. BWSR. EQB. MDH. MDA. SWCD. WD. WMO. ESD. This is a partial listing of acronyms for various agencies and entities involved in natural resource related activities in Minnesota. Each has its own history, largely independent of the others. The DNR, with its focus on public resources, developed out of various conservation commissions of the late 19th century. PCA emerged in response to environmental concerns that became apparent in the late 1960s. BWSR, a result of a late 1980s fusion of several prior entities, coordinates activities of SWCDs, Watershed Districts, and other Water Management Organizations. SWCDs emerged out of the dustbowl to help private landowners implement better soil and water conservation practices. Watershed Districts were initially authorized in the 1950s, in response to high water levels and flooding of farm lands. The EQB provides environmental policy guidance to the Governor and Legislature. State Agriculture and Health department and county Environmental Services Departments add several more layers of complexity to our natural resource management efforts. On top of all of this, Legislators often feel compelled to intervene on behalf of constituent interests (as exemplified by the recent DNR "Dock Rules" controversy).

We need to reduce redundant, overlapping bureaucracies and to clarify conflicting mandates among and within agencies. Our byzantine maze of natural resource management efforts is financially inefficient and is not particularly effective in accomplishing its overall mission. The on-going confusion concerning changes to the Green Acres Program serves as a timely example. From the perspectives of soil and water conservation and habitat protection, non-tillable land provides critical ecosystem services and landowners should be encouraged and rewarded for maintaining untilled lands. Why then alter our tax code in ways that provide perverse incentives which encourage farmers to till private land from boundary to boundary?

A need to streamline and simplify natural resource management has been apparent for decades and several efforts in that direction have been initiated. Ironically, these efforts faltered not because they were overly ambitious but because they were not ambitious enough. In the mid-1990s for example, the EQB of Gov. Carlson's administration failed in their attempt to have the relatively tiny BWSR folded into the much larger bureaucracy of the DNR. While this attempt may have been well intended, it would have resulted in further blurring of function rather than greater efficiency. Instead of merely combining existing entities, we need to build an entirely new agency from the ground up. Three keys to structuring a new comprehensive resource management agency must be explicit recognition of (1) particular domains of activity, (2) well defined functional divisions, and (3) an effective means of delivering well-coordinated programs and services.

First, with respect to domains, a comprehensive resource management agency will need to recognize the absolutely fundamental distinction between managing public resources and shaping practices occurring on private lands. Historically, the DNR has had the primary responsibility for public resources while SWCDs (and BWSR) have worked with private landowners. The current placement of the Private Forestry Management program with the DNR serves to illustrate the current and confusing blurring of domain boundaries.

Second, with respect to specific functions, a new agency must provide clearly defined roles of divisions within public and private management domains. Monitoring of public surface waters, for example, is a largely a PCA function under our current multi-agency system. However, monitoring of pesticide levels in surface waters statewide is the responsibility of a five person unit within the Minnesota Department of Agriculture. Moreover, this tiny and isolated monitoring unit has no real enforcement authority (see Item 8).

Finally, the means to deliver well-coordinated programs and activities is inherent in adopting a uniform, watershed-based approach to resource management. As it currently stands, we often have conflicts among spatially incongruent mandates from various state agencies and locally initiated resource management and protection projects. With the establishment of a single comprehensive, watershed-based natural resource management agency we could more effectively integrate top-down and bottom-up efforts.

What might such an agency look like? A relatively small and efficient St. Paul office would provide strategic statewide guidance. To assure flexibility and accountability, a board similar in composition to that of BWSR or the EQB would provide policy governance with an Executive Director hired based on technical qualifications and management skills (see Item 5). Additional central staff would coordinate clearly defined functions within the private and public domains of each watershed unit. At the local level, watershed-based entities with functions similar to DNR area offices (public domain) and SWCDs (private domain) would deliver services. The overall outcome would be more local field staff and fewer central administrators.

Local watershed policy governance would be shaped by elected watershed boards (see Item 9). Local watershed boards would develop job descriptions appropriate to local contexts within the framework of statewide strategic goals. Expertise appropriate to particular ecological contexts would be shared among watershed units within a given basin (similar to the way that current Technical Service Areas (TSAs) provide shared services to supporting SWCDs). Hiring would be based on a competitive statewide process.

Because combined natural resource management activities consume but a tiny fraction of Minnesota's overall budget, direct cost savings resulting from consolidation into a single agency are unlikely to have a major impact on our overall financial picture. On the other hand, the process of streamlining natural resource management activities could provide a model for increasing efficiency and efficacy of larger and more costly state agencies. In particular, a shift away from administratively burdensome accounting-driven processes ('bean-counting') toward systems of real accountability based on outcomes could result in very significant cost reductions.

(7) Move toward fully web-based process (One Stop Permitting)

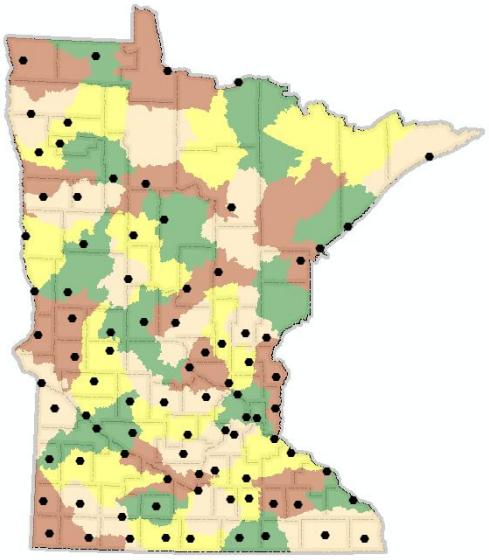
Once the current tangle of entities and acronyms has been streamlined this step will be considerably simpler than it would be at present. It will also be critically important and must integrate both state and local processes. Citizens are justifiably frustrated by needlessly complex and diffuse permit application processes. From a technological standpoint, there is simply no reason that web-based One Stop Permitting could not be accomplished. Granted, it would entail a considerable amount of work up front but this could also serve as an economic stimulus by providing green jobs for the high-tech sector employees.

(8) Enhance compliance and enforcement capacity

Responsibilities of DNR Conservation Officers (COs) have expanded dramatically in recent years. From simply enforcing game and fish laws, that job has implicitly evolved to include consideration of everything from compliance with shoreland and wetland rules to monitoring transport of invasive species. We should explicitly recognize this evolution and move toward Resource Protection Officers (RPOs) as a functional division in both public and private domains. RPOs would have broader general authority than current COs and specialized enforcement expertise could be distributed among watershed units within encompassing regional basins (see Item 9).

In addition, we must recognize that despite our best educational efforts and exemplary citizen participation in monitoring and protection, some small fraction of people will continue to violate statutes, rules, and ordinances. Weak enforcement of laws rewards bad behavior and penalizes good citizens. Effective management of natural resources absolutely requires fair but stern enforcement as well as financially significant penalties for violators.

(9) Re-organize counties along watershed lines



Minnesota is currently broken into 87 counties. County boundaries have changed in the past in response to demographic dynamics and, given current conflicts over local government aid, it is time to rethink and redesign county level organization.[7, 8]

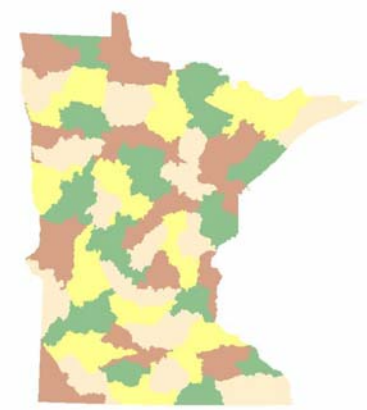
Current counties vary dramatically in size and population. For example, Ramsey County with an area of less than 156 square miles is our most densely populated county at 3278 people per square mile. St. Louis County, in contrast, extends over 6225 square miles (more than 5 times the area of the State of Rhode Island) with an average of just over 32 people per square mile (most of those concentrated in Duluth). Traverse County is home to less than 4200 people and sixteen Minnesota counties have total populations under 10,000. Carlton, seat of the county of the same name, has less than 1000 residents and is within twenty miles of Duluth. Nine counties, primarily in the west and southwest, saw their populations decline by more than 20% from 1980 to 2000; seven suburban counties saw populations increase by more than 50% over the same time period.

More importantly, existing county boundaries are historical accidents, drawn without reference to any underlying ecological realities. In the illustration above and to the left, county seats and county boundaries are superimposed on fifty watershed units. Linear county boundaries stand in marked contrast to the more organic, "camouflage" pattern of watersheds. If we really want to move toward a Green Economy it is imperative that our units of governance reflect the fundamental organization of natural landscapes.

To that end, it is time to collapse our current 87 counties to 50 watershed based county units roughly congruent with those in the figure. These fifty units were created by carefully combining adjacent watersheds within basins and utilizing existing county seats. All but three of these proposed units have an existing county seat. Several include multiple county seats but the total number of county seats should be reduced by reference to population size and trends. Further cost savings could also be realized by having these same "watershed-county" units function as school administrative districts (with local Site Councils operating at individual school locations). The fifty proposed watershed based 'county' units have an average area of 1740 square mile which translates to an easily drivable 25 mile radius.

Current county seats were established, quite literally, in horse-and-buggy days – they are anachronistic historical artifacts. As the Association of Minnesota Counties recognizes, it is time to redesign the relationships between state and local governments.[7] As a final aside, townships make even less sense than counties as administrative units in the 21st century and only compound regulatory confusion. Strange as it may seem, it may be time for 'progressive' Minnesota to follow 'conservative' Indiana's lead and consider eliminating townships as governmental units.[5]

(10) <u>Shift to unicameral legislature or a legitimate bicameral model</u>



The current bicameral organization of the Minnesota legislature serves no useful purpose since both House and Senate seats reflect only population density and respond primarily to the relatively short-term interests of constituents. If we wish to preserve this strictly population-based model, we should switch to a unicameral legislature immediately following the 2010 census.

Alternatively, and especially if we really want to transition to a Green Economy, we should adopt a legitimate bicameral model with Senate districts based on watersheds as functional ecological units (see proposed Senate districts at right). One senator would be elected from each of 50 watershed-based counties (see Item 9). Senators would be elected to represent the interests of long-term ecological sustainability of their region and would be limited to two 6-year terms.

We currently have 201 legislators, with 67 senators and 134 house members. If we were to adopt the Senate proposal outlined above, we could actually increase the number of House seats to 150 with districts boundaries based on population (and possibly demographic homogeneity to assure common interest representation). Currently each House member represents roughly 38,800 people. With 150 House members, each would serve roughly 35,000 constituents.

Both history and psychology suggest that resistance to this essential step toward a Green Economy is likely to be loudest in the Legislature itself. It will take particularly skillful leadership to convince colleagues to act in the long-term interest of Minnesota rather than in the short-term interests of their constituents and themselves. Senators from densely populated urban and fast growing suburban areas will be confronted with an especially difficult challenge – essentially voting each other out of office in order to restore a more balanced and sustainable relationship between economic and ecological considerations. How probable is this change? About as likely as the proverbial "snowball's chance," but it nonetheless remains possible if some of our more visionary and effective leaders take up the challenge.

The Upshot

Minnesota's current financial challenges are but a small part of an immensely complex transition in the larger global economy. In this already difficult context, undertaking a comprehensive revision of our state's natural resource management programs and larger organizational structure might seem to be an ill-timed distraction. On the other hand, what we do in Minnesota might serve as model for our nation and the world.

Many elements are at play in our current situation. Yes, we face a daunting budget crisis. But, we also have broad support for resource protection as evidenced by passage of the Clean Water, Land, and Legacy Amendment. We have a Statewide Conservation and Preservation Plan in place.[6] The Association of Minnesota Counties has put forward a call for a dramatic redesign of the relationship between state and local government (admittedly not exactly that proposed here!).[7] At the federal level, we have a new generation of leadership that has expressed a deep and fundamental commitment to change.

Whether or not we can create opportunities in this time of crisis depends on our willingness to act creatively and decisively, in short, whether our legislative leaders can truly lead. The sustained influx of Amendment dollars over the next quarter century could catalyze fundamental improvements in the structure and function of natural resource management in Minnesota – or the money could foster continued *ad hoc* expansion of too-often incoherent and cumbersome bureaucracies.

The late paleontologist Steven Jay Gould frequently reminded us that our scientific theories and models are not so much true or false as they are useful or misleading. Perhaps the same could be said for the idea that "crisis" includes both "danger" and "opportunity." The two characters at the upper right are actually different versions of "jī." In the upper version, many elements clearly remain in play; the situation is fluid and unfolding. Perhaps it might then be useful to think that in the lower version, the situation has been simplified, the fleeting opportunities fully realized.

Are the changes proposed here far reaching? Certainly. Are they necessary? It would seem so. Are they do-able? Perhaps, if through the will and tenacity of bold and visionary leaders we can move Minnesota toward a Green Economy and more sustainable future. As we work together to address our unfolding budget crisis we would do well to recall President Kennedy's inspiring challenge: "Some see things as they are and say why. I dream things that never were and say why not.'"

References

[1]Mair, V.H. 2008. Danger + Opportunity ≠ Crisis (webpage accessed 31 December 2008 at http://www.pinyin.info/chinese/crisis.html)

[2]Beltrami County Local Water Management Plan. 2008. (Accessed 31 December 2008)

[3]House File 2536. 2008. Basin Watershed Management. (Accessed 31 December 2008 at https://www.revisor.leg.state.mn.us/bin/bldbill.php?bill=H2536.1.html&session=ls85)

[4]Leopold, A. 1947. The Land Ethic. (Accessed 31 December 2008 at http://faculty.bemidjistate.edu/dsiems/courses/peoplenv/leopold.htm)

[5]Kernan-Shepard Report: Streamlining Local Government. 2007. Indiana Commission on Local Government Reform (accessed 31 December 2008 at http://indianalocalgovreform.iu.edu/assets/docs/Report_12-10-07.pdf)

[6]Minnesota Statewide Conservation and Preservation Plan. 2008. University of Minnesota Institute for the Environment, prepared for Legislative-Citizen Commission on Minnesota Resources. Executive Summary and Final Plan available in Adobe Acrobat pdf format (accessed 31 December 2008 at http://environment.umn.edu/scpp/)

[7]Minnesota Redesign Project. 2008. Association of Minnesota Counties (accessed 31 December 2008 at http://www.mncounties.org/redesign.htm)

[8]Minnesota Counties. 2008. Wikipedia (accessed 31 December 2008 at http://en.wikipedia.org/wiki/Minnesota_counties)

31 Dec 08
Dann Siems
(218)759-9534
siems@paulbunyan.net
Bemidji, Minnesota 56601