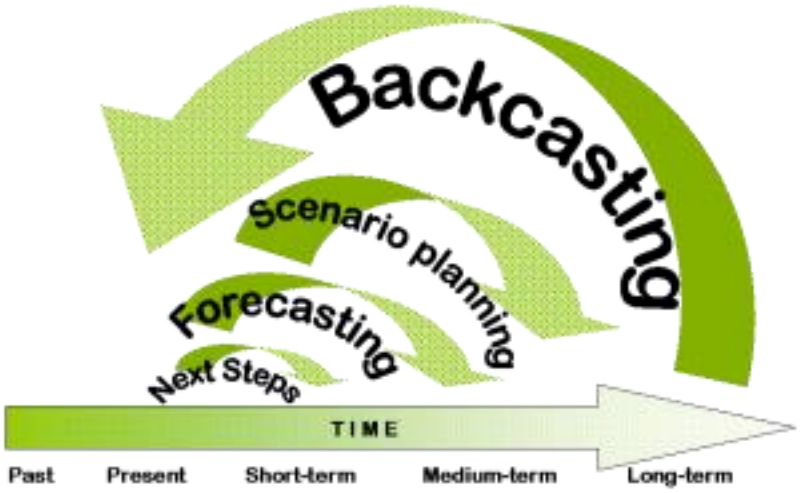
NORTHERN BRUCE PENINSULA – 2067
NOTES ON THE PUBLIC FORUM DISCUSSIONS HELD SUNDAY, MAY 7, 2017
SOURCES OF KNOWLEDGE FORUM

THE INTERACTIVE BACKCASTING APPROACH

Interactive backcasting was developed as an alternative to traditional forecasting and planning methods. It is a very useful tool for exploring sustainable policies. It is also described as 'backwards−looking−analysis', which is based on working backwards from a particular desirable future.



The process starts with choosing one or several future visions as a starting point. Then the participants work backwards to present exploring different interventions that can help to attain the future vision. The following elements are identified:

- Milestones to be passed
- Opportunities to be taken
- Obstacles to be overcome 'along the way'

Interactive backcasting is a useful method when:

- Solving complex problem that affects many sectors and levels of society
- Major (systemic) changes are needed
- The problem relates to externalities not addressed by the market alone
- When the time horizon is long, 30 − 50 years

Some Context to Consider for Northern Bruce Peninsula 2067

- many of us will be deceased, so we are talking about the NBP of our children, grandchildren and great-grandchildren (NEED DEMOGRAPHIC INFO)
- hard infrastructure has a life span so many of the buildings we see today will need significant re-builds

- the last 50 years we've moved from a natural resource-based economy (fishing, lumbering) to a service-based economy (tourism, government services)
- may need climate change susceptibility/forecast for Peninsula to guide us (ie., water levels, precipitation levels, flooding, forest fires with more lightning strikes from violent weather, temperature increase)
- SON land claim will have been settled

The Forum.

The attendees were broken into 8 groups , each with a leader and a topic. Focussing on their topic as far as possible, the groups were asked to answer the question: "Given our current understanding of trends, what would you prefer the Peninsula to look like in 2067?" The participants were made aware of the current Northern Bruce Peninsula Official Plan Review and that it could would benefit from information identified at the Forum. If there was interest, participants could sign up to continue development of the 'desired future' at additional workshops.

The group leaders reported back on their deliberations to the entire audience in plenary session, and seven of the eight also provided these written reports. The formats of the reports varied in style and length; some uniformity has been attempted. The challenge to each group issued by Forum Chair Brian McHattie is shown under the heading in italics.

Technological Changes (Leader Jace Weir)

Technology is changing quickly – what impact will that have on rural communities like the Peninsula? How will changes in medical science, artificial intelligence, communication, and other technologies affect us by 2067?

Medical technological. Computerized diagnosis - using computers to assess medical problems based on patient symptoms and health background. Computer diagnosis may be less biased, and provide access to specialists without traveling long distances at reduced cost. Current health care costs will continue to climb, especially with an aging population, so new technology may reduce may costs, and allow seniors to continue to live in rural areas which are typically under-serviced (which is not the case currently, but could become so in the future).

Nanotechnology. Nanobots will be used to seek out and destroy harmful bacterial and viral infections and cancers, and to clear out and restore arteries (cholesterol), repair organs, etc. Again this should reduce reliance on medical staff and thus potentially reduce costs.

Social issues. Will isolation due to cell phone use continue to impact

socialization of youth, and their disconnection from nature? Will it remain a negative or turned into a positive? How do we get back to appreciating nature? (ex.) Ban cell phones at the cottage?

Mechanization. Robots will continue to replace human workers especially in manufacturing jobs. What will this mean for jobs going forward? How will we employ young people in the future? What is the future for young males if they can't find meaningful work? Increased crime and violence?

Monetary impacts. Physical money may disappear. What about a global currency, such as bit coins?

Freedom of Movement. The future may allow more of this for working adults. Work where you want to live, rather than close to your workplace, reducing the need for long commutes to work. Big cost reduction and potentially less pollution could result, plus a reduced need for infrastructure maintenance and development. Higher speed internet in some form can be expected to facilitate this.

Energy requirements . These may not be an issue 50 years out. There should be huge improvements in electrical storage capacity, which makes solar and wind electrical generation more practical as an alternative to fossil fuels. Fusion generators of electricity may finally be a reality.

Septic systems. Concerns were expressed about septic systems on the peninsula, and what effect they may have on the earth and water. Can they be improved to better protect our environment, especially as the population increases? Could we use human waste to create energy?

Virtual tourism as mentioned by Kit Worzel, may attract more tourists, but also train them to appreciate the fragility of the environment before they visit.

Technological change is occurring at an accelerating rate. Who is benefiting from new technologies? Young people? Are older people being left behind? Will more leisure time allow for more meditation and reflection?

Agriculture and Food Supply. Leader Jacqui wakeford

Currently there is a healthy agricultural economy on the Peninsula; how will that change given a warming climate? Earlier efforts of the Transition Town group on the Peninsula encouraged local food (ie., 100 mile diet) – how much food can be grown here for local consumption?

Assumptions about context:

- Land claims will have been settled and more collaboration will be occurring between indigenous and non-indigenous residents.
- Lack of fossil fuels will result in (1) farm machinery powered by electricity and other energy sources and (2) fewer chemical fertilizers.
- Climate change will require experimentation with different and new crops.
- Population shifts (increases) will result in increased pressure for land.

We would like to see in 2067:

- Majority of foods are “produced” locally and crop choices are under local control – local ownership and “buy local” preferences of residents.
- Productive farmland is protected – zoning, soil protection/production, elimination of herbicides and pesticides (added benefits for other parts of ecosystem).
- Innovative and collaborative food/agricultural partnerships are well-established between indigenous and non-indigenous residents related to food production/collection and security.
- Land trusts, farming collectives and cooperatives, community supported agriculture, community pastures, etc. are well established across the peninsula.
- Younger people regularly enter “farming”/food production (including preparation, preservation & distribution) with financial support and land incentives from the municipality and county (eg, payment & recognition for provision of ecological services)
- Corporation land ownership & control has been mitigated by
    - Taxation system
    - Pre-emptive action in zoning and land ownership regulations
    - Successful food production partnerships & collectives
- Crop diversity is promoted, and heritage/open-pollinated crops are linked with community seed-saving programs to protect long-term food security for the region.
- Natural local foods are an integral part of the food system – forest plants (eg, roots, mushrooms, wild, leeks) and meat from hunting & fishing
- Harvest gatherings/feasts occur throughout the peninsula whenever crops/foods are gathered (perhaps early summer, late summer, fall) and are jointly hosted by indigenous and non-indigenous food-providing partnerships.

What we need to do in the short-term to help develop this future:

- *PEACEFUL REVOLUTION*
- Have a charter for food and water developed and approved as explicit item by Municipal and County Governments – ie, a statement of values and principles to guide a community's policies related to food and water. [Examples are Grey Bruce Food Charter at https://www.publichealthgreybruce.on.ca/Your-Health/Eating-Well/Food-Charter and

- Southern Alberta Water Charter at http://lethcounty.ca/Home/Components/News/News/2346/18?backlist=%2f ; http://environmentlethbridge.ca/water/]
- Promote more activism regarding food security and water stewardship – eg, influence legislation re pesticides/herbicides, explicitly include in reviews/revisions of municipal and county plans, zoning related to agriculture
- Education about food production and water stewardship made available for individuals of all ages
- Local grassroots initiatives and support – eg, farmers markets, "buy local", farmers gates sales

Housing and Population (leader John Greenhouse)

67% of the population is 55 years or older; the current population of the Northern Bruce Peninsula is 3,800 (more if a portion of the Municipality of South Bruce Peninsula is included). What would be an acceptable increase in this population by 2067? How would an increase in population affect housing needs? See #7 for population needed to support schools.

Population. We started the conversation by asking what sort of population would be acceptable in terms of quality of life. Infrastructure requirements such as water and sewage were not considered; it was more to do with social interaction. We also tried to isolate our topic from others such as energy, land availability and tourism, while recognizing that these were factors that would eventually have to be considered.
There was no resistance to a doubling of the population on the Bruce to 16,000, and little reaction to one of our group who said that a quadrupling was quite acceptable and would indeed improve the quality of life. These numbers would bring us into the vicinity of the population of the Door peninsula in Wisconsin. Surprisingly there was no "not in my backyard" attitude amongst the particular group of people assembled.
It was agreed that this increased population (and energy efficiency) would require some high density accommodation such as condos. "Tiny houses" (1000ft^2 and less) were mentioned and the concept that the minimum house size be dropped or lowered and replaced with a minimum assessment.

Demographics. We then discussed what distribution of ages was desirable and how one might get there. Was it sufficient to just let the market place handle it (additional retirees would automatically attract young service providers and their families) or was active intervention by planners desirable. Here the sense was that some planning would be necessary, to provide infrastructure (such as recreational centres, marinas, latest communication systems, etc) and economic opportunities that would attract young families.

Energy and Transportation (Bob PATRICK)

Currently almost all transportation on the Peninsula is provided by private automobile using hydrocarbons as fuel. How should we move around in 2067? More public transportation? More electric vehicles? How would changes be accomplished?

TRANSPORTATION

- Driverless cars will be the norm for travel. Vehicles will be predominately electric with power storage and recharging stations along our highways.
- GAS and Diesel RV vehicles should have to pass an annual emissions test and have a pass sticker on the windshield before being allowed on the Bruce Peninsula.
- There will be fast Boat Connection from Owen Sound to Tobermory A water bus, holding 50 to 75 passengers. Some may provide for small vehicles; others walk on passengers only.
- We will still see individuals traveling in their own cars. Many will be smaller sized.
- Nonetheless there will be less individual travellers and more public transit.
- We envision a new fast train from Owen Sound to Tobermory. Possibly connected to trains from Toronto to Owen Sound.
- We envision walking-friendly Infrastructure for town centers; pedestrians only, cars parked at the edge of towns and villages.

ENERGY

- We will possibly see the availability of small municipal nuclear power plants with shorter transmission wire runs and less current loss. This would be efficient, cleaner than fossil fuels, but controversial and having its own waste problems.
- Ideally each home would have a wind turbine, a solar panel bank, and a battery pack similar to the Tesla “wall pack” available now. They would draw from and contribute to the distributed electrical system
- Conservation and learning to live with less energy will be paramount. Smaller homes might employ “boat-style” energy systems using 12 volts.

Local Economy and Jobs (Leader Megan Myles)

37% of the Peninsula's adult population have some form of employment, the remainder are retired; the unemployment rate is 11%. Is this an acceptable/desirable distribution in 2067? Currently there are 205 jobs in accommodation and service; 205 jobs in health and social services; 165 in retail trade; 180 in construction, finance and real estate; 165 in education and public administration, and; 110 in manufacturing (2011 Census data). Is this a desirable economy/employment picture for 2067?

Our vision for 2067 for the local economy & jobs:

- Inclusive, collaborative and innovative community
- Economic activity that protects the natural environment

- Maintain our diversified economy and increase the number of quality, year-round jobs
- More people transitioning from seasonal/transient to permanent, year-round residents
- Re-position tourism towards eco-tourism
- Concentrate development in towns (i.e. Tobermory and Lion's Head) and not sprawling across the peninsula
- More "knowledge workers" who work from home (potentially co-working spaces, better rural internet, and a community owned internet coop to support this)
- More young families to create a more balanced demographic and to contribute to a thriving school
- Strong services, thus another source of jobs (i.e. education, health care, etc.)

Economic sectors: Current sectors include tourism, health care, education, construction. 2067 sectors may include: sustainable industries (i.e. eco-tourism & organic agriculture/agri-tourism), knowledge workers, health care, services, research & education (create a research institution, maybe researching impact of climate change on biodiversity) (i.e. Hollyhock, Wintergreen in Frontenac)

Some challenges:

- External pressures, such as migration due to climate change
- Coastal development
- Lack of political direction and leadership
- Not having the means to control population growth
- Defining carrying capacity & enforcing our limits
- Developing active transportation
- Different values within the community, thus inhibiting common vision

What we can do to get from here to there:

- Start disseminating local research (in accessible formats) within the local community, so we can start to identify as a centre for research & education
- Continue to promote community engagement to ensure that the community vision corresponds to the political direction

Not directly related, but other points:

- proactive, not complaint driven local government
- strong leadership & sense of direction

Climate Change (leader: Daryl Cowell)

Climate is rapidly changing with the hottest years on record being recorded in the last 10 years, more violent storms, and an overall decrease in precipitation. What role can we on the Peninsula play in reducing greenhouse gas emissions? What climate-related changes will occur on the Peninsula and what steps do we need to take to adapt?

PREMISE/SETTING

We did not discuss or debate specifics of changes in temperature and precipitation. The overall direction of change for this part of southern Ontario is generally considered to be hotter and drier; however, as we are already witnessing, climate change is about variation and extreme events (e.g., current flooding in the Gatineau Region of Québec).

With a horizon of 7 Generations – 150 years – we can foresee climatic changes leading to:

- Significant year-to-year variations (hotter years followed by colder, wetter by drier);
- Seasonal shifts resulting in longer, warmer summers and shorter milder winters (on average);
- Higher frequency of short-term catastrophic events (e.g., storms, high winds);
- Periodic droughts and flooding;
- Changes to water levels – streams and lakes; and
- Consequences to human health and living.

These changes will result in effects to both natural systems (e.g., species shifts, species change, etc.) and to human systems (e.g., catastrophic damage to structures). In the time available, the work group focused on human systems and were not able to undertake much discussion relating to flora and fauna.

DISCUSSION

The group recognized that most of the Bruce Peninsula, unlike virtually all of southern Ontario, is not under the management of a Conservation Authority. This clearly has consequences pertaining to planning (water systems), monitoring and regulation. These responsibilities fall to the County, local municipalities and First Nations governments. As a result, much of our discussion focused on the need to PLAN and MANAGE for climate change. Further, this should be undertaken LOCALLY involving COORDINATION amongst citizens and all local governments with input from provincial agencies.

NATURAL SYSTEMS

Of particular note was the need to monitor changes, especially at the species level. In this regard, the Bruce Peninsula is particularly well placed as we have world-class monitoring programs including those of the National Parks and the BPBO. Water quality conditions and trends are being monitored in several local watersheds by the BPBA.

These monitoring programs provide an excellent baseline for observing change and the group suggested that data from these programs could become part of a Bruce Peninsula focused STRAGEGIC PLANNING INITIATIVE that would focus on the coordination of data analysis and the development of contingencies. Supplemental information could be collected by local citizens at site-specific ("lot level") locations that could include anecdotal information. The First Nations' attendees left us with the thought "Watch the Animals"!

Although not discussed in any detail there are many models for undertaking local coordination and strategy development ranging from SOK type initiatives through regular working groups to formal associations.

HUMAN SYSTEMS

Aspects of human systems and health that we discussed included:

- Agricultural effects on planting/harvesting timing and crop type;
- Fisheries effects on location, species and timing;
- Changes to recreation including type and timing;
- Increased forest fire incidence;
- More frequent damaging flood events (shoreline and river);
- More frequent power disruptions; and
- Impacts to domestic wells (levels, quality) and septic systems (capacity).

The discussion of these areas emphasized the need to PLAN and RESPOND. Planning efforts would involve some form of a local "facility" [note: moderator's word] that would consider each of the above in terms of the where and the degree. The nature of such a facility was not discussed but there seemed to general agreement that it would be watershed based but the group was not in favour of the establishment (or extension) of a Conservation Authority nor the creation of a new government entity. Rather it would be local and involve coordination among all local (municipal and Aboriginal) citizens and governments, perhaps with County, Provincial and Federal interaction. The latter would include access of and technical support from Agricultural departments/ministries, Fisheries and Environmental departments/ministries, etc.

A key discussion point pertaining to planning included the concept of "Governance of Knowledge" that would involve the extensive use of geographic data including dynamic beach maps showing the nature and intensity of potential hazards (rock vs. sand shores; high-energy impact zones; variation of these at different elevations, etc.); a registry of change and occurrences that land owners could access (e.g., karst drainage problems); and technical monitoring/research data from agencies noted above.

Response efforts would include consideration of changes to the building code recognizing specific local conditions and potential climate change effects within the Bruce Peninsula context. It would also include response capabilities when catastrophic events occur.

CONCLUSION

Time did not permit a formal conclusion as such, however I have attempted to highlight what appeared to be key concepts of interest to the group. These are

shown above in capital letters: **LOCAL, COORDINATED, STRATEGIC, PLAN, MANAGE, RESPOND**.

Biodiversity (leader Esme Batten)

Bruce Peninsula features the largest intact natural area in southern Ontario with strong biological diversity and a range of significant species, including the healthiest Massassauga Rattlesnake population in the world. What needs to happen to maintain/protect/enhance biodiversity on the Peninsula, noting that linkages to habitats south may be required to maintain minimum viable wildlife and plant populations.

- More education about the area: Biosphere, uniqueness, Massassauga, alvar, overall Peninsula health
- Need for more designated protected areas
- Rehabilitate some natural areas that have been degraded
- Preserve habitats versus species (systems resilient to change)
- Connection of significant forest habitats
- Research, surveys, monitoring, control of invasive species – working with experts
- Natural Heritage System in the Official Plan
- Hotlines for locals with information about invasives, SAR etc.
- Info on invasives to locals re gardening
- Different levels of government should work more collaboratively with NBP organisations
- Not solely recreational destination but focused on biodiversity as well
- Need to know what/where we need to protect now for the future
- Re-introduce native plant species that were here in the past and can survive here now
- Allow for natural succession to occur and learn from it
- Focus new hiking/outdoor activitires in areas with lower biodiversity/sensitivity
- More Conservation Officers
- More “Wandering Naturalists”
- Provide information at the base of the Peninsula
- Educational signs on roadways, public properties, work with MTO
- More ecopassages, ecofencing in significant areas
- Direct some funding from visitors to conservation
- School education on biodiversity, led by a combination of organisers
- Education on tour buses
- Determine how to cater to all visitor groups for education
- Education about cleaning boots, boats, cars, off-road vehicles