Who can claim to be in the know of 'urban ecology'?

A seminar on plants, people and collective action in post-apartheid Cape Town.

28 March 2012
Centre for Civil Society
Built Environment and Development Studies
University of KwaZulu-Natal

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Seminar overview

- **My talk to set the stage for discussion** (approx. 45 mins)

  - Short background of my earlier studies from Stockholm

  - Case studies in Cape Town - 3 ways of knowing urban ecology

  - "Ecosystem services" - a technology of globalization?

  - Studying collective action and social movements through social network analysis - complementing in-depth case studies

- **Opening for discussion** (approx. 45 mins)

Where is Southern Africa?

Urban ecology?

- **Urban Ecology** - "cities as ecosystems"
  - Based on ecological sciences; EuroAmerican cities;
  - 'recombinant ecology' different from rural/'wild' areas.
  - Systems perspective (cybernetics, complexity theory) to organize research
  - "Social factors" as boxes in a systems model

- **Urban Social-Ecological Systems**
  - based on previous but include studies of _social institutions, norms,_ and 'local' and experience-based knowledge ("The Stockholm School") and how humans can be viewed as active agents in supporting or managing urban ecosystems.
  - Fond of 'resilience', 'ecosystem services' and finding the "right trade offs" to solve conflicts.
  - Close to 'natural resource management' and 'ecological modernization' discourse.
 - Embraced by developmentalist discourse.

Marina Alberti

Advances in Urban Ecology

Integrating Humans and Ecological Processes in Urban Ecosystems
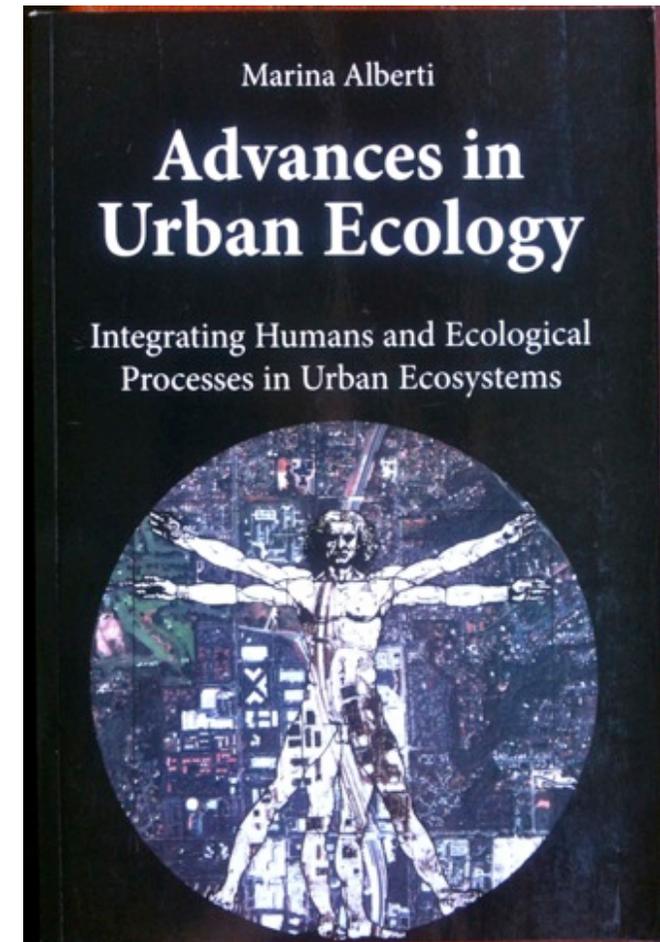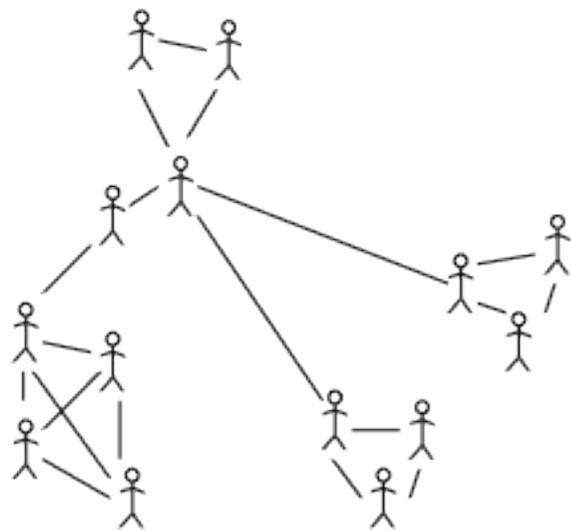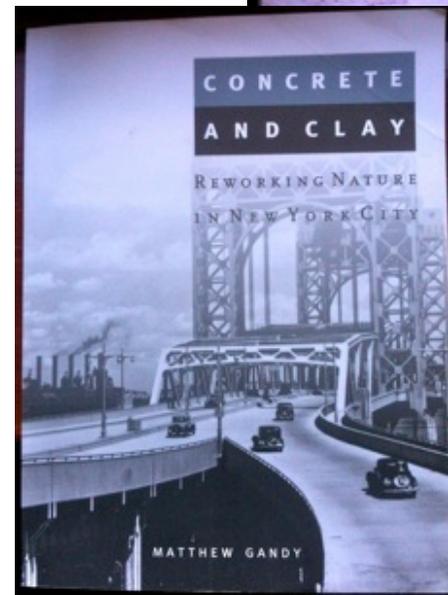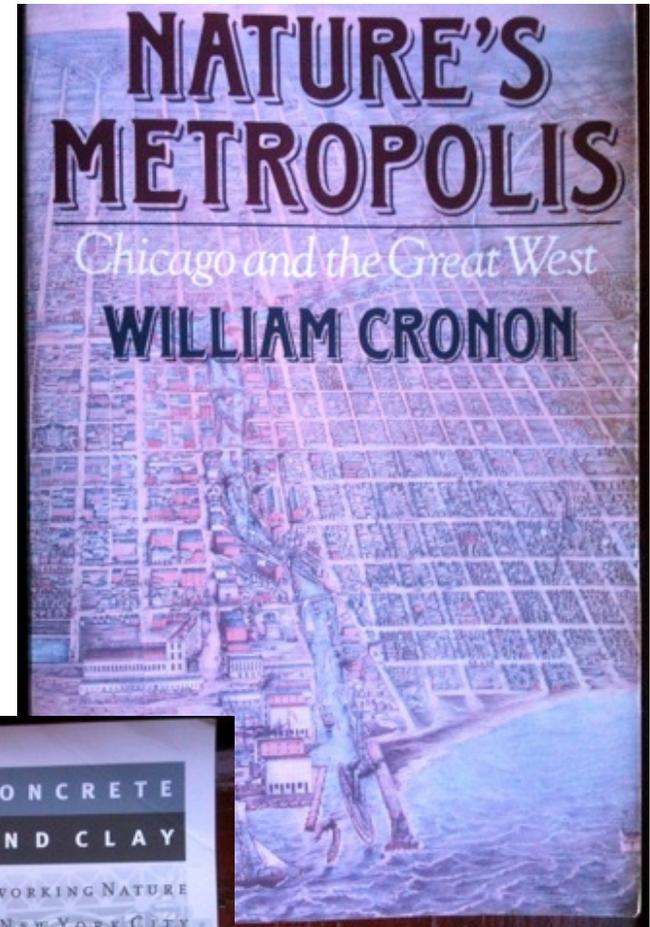
| 1 | 1.5 | 2 Kilometers |

Urban ecology?

- **Cultural Geography** (or post-structuralist urban ecologies)
- Interested in identities and sense of place.
- Fond of using post-structuralist theory to understand what processes stabilizes certain biophysical configurations and the knowledge(s) of those.
- Analyzes power, but _strives to be less normative than UPE_.
- Do not engage in Environmental Justice literature directly

- **Urban Political Ecology** -
- Analyzes biophysical condition _and_ discourses that shape how the biophysical is known. Who is legitimate to claim knowledge and why?
- "Politicizing the _production_ of urban natures" - emphasis that nature is produced through systemic (and capitalist) relations. Nature is not untouched by people, but inherently part of the social, and thus is political through and through.
- Foregrounds conflict and power relations to understand urban nature of urban biophysical conditions.
- Engages with Environmental Justice (EJ) literature.
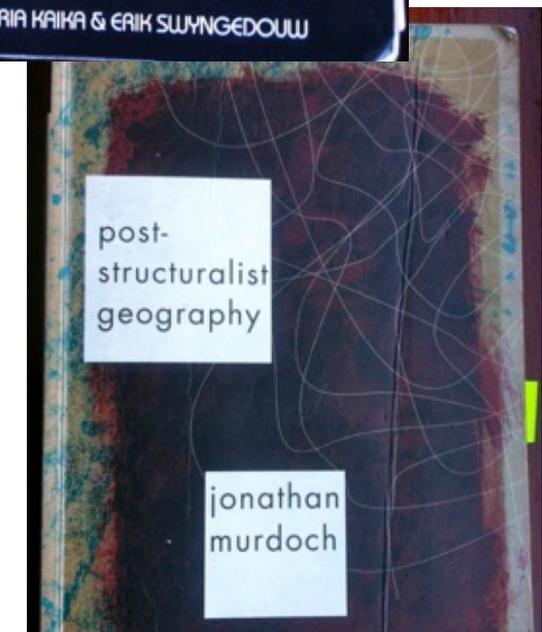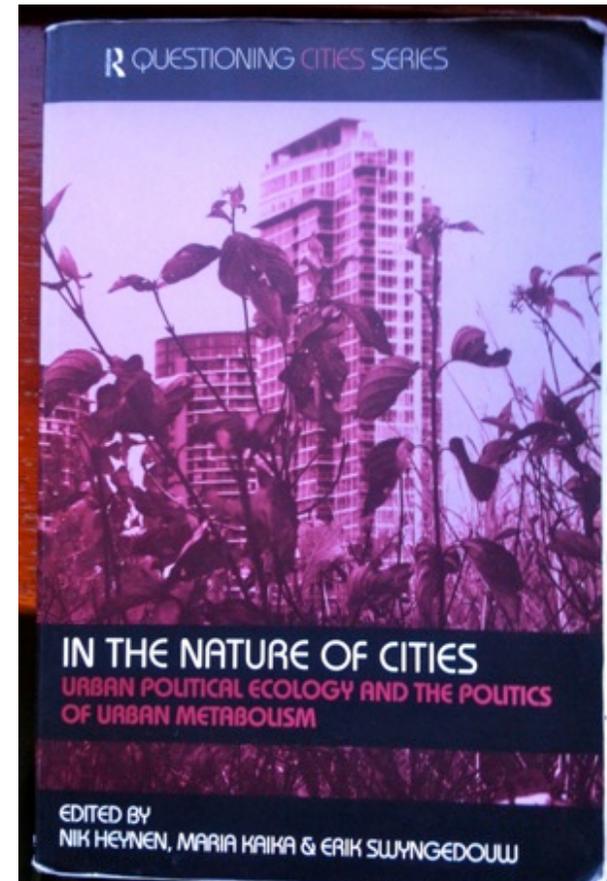
Urban ecology?

- **Urban Environmental History**
- Historians making the case that cities and urbanization is re-working of nature into different forms.
- Close to Urban Political Ecology

NATURE'S METROPOLIS

Chicago and the Great West

WILLIAM CRONON

CONCRETE AND CLAY

REWORKING NATURE IN NEW YORK CITY

MATTHEW GANDY

Case-study: National Urban Park & Ecopark movement

A space of conflict between

... conservation for its ecosystem services

... exploitation since lying close to Sweden's political, economic and administrative centre.

Empirical data

Network survey (60 organizations; 77% response rate)

11 interviews

6 participatory observations

But network structure does not explain all.

A narrative, a framing, a vision is needed to explain what is of value and needs to be done; "direction" of social network mechanisms...

Findings:

A. *Connective practice* to create a "protective story"; cultural history interlaced with conservation biology.

B. Artefacts from other actors were important (mobilizing civil servants and researchers to produce useful artefacts; brokerage).

C. Correlation between the framing process and the spatial emergence of networks (diffusion but also brokerage)
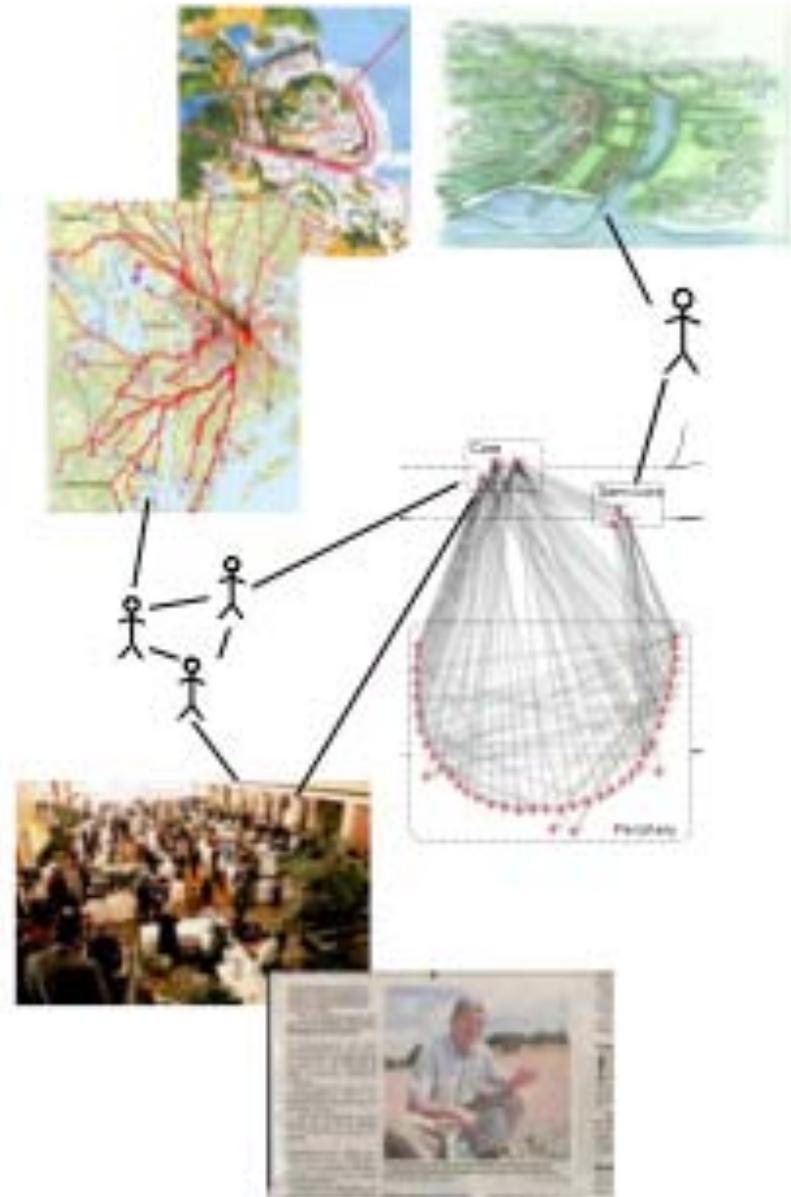
To Cape Town...

Images of Capetonian ecology:
"Postcard ecology..." and "biodiversity hotspot"

Map2: Cape Towns Biodiversity Network
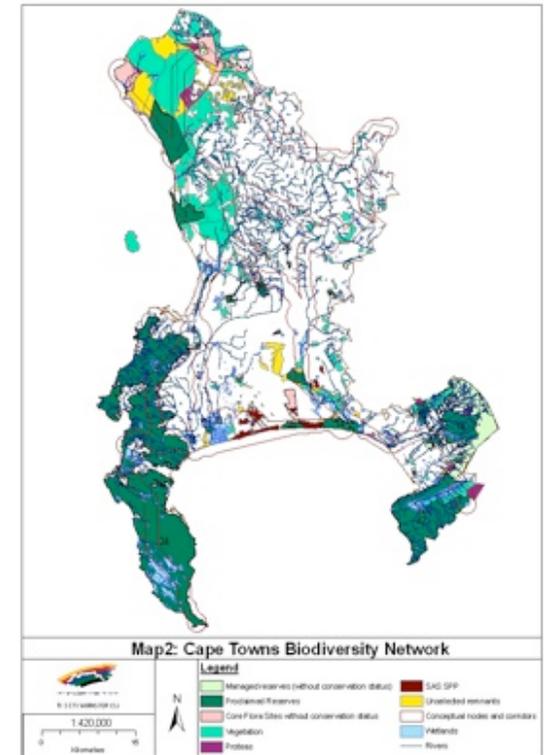
"Few cities can lay claim to as many spectacular natural attractions as Cape Town, and with a population as vibrant and inspirational as its features, it's no surprise that this beautiful city on the south-western tip of Africa is regarded as one of the world's premier tourist destinations."

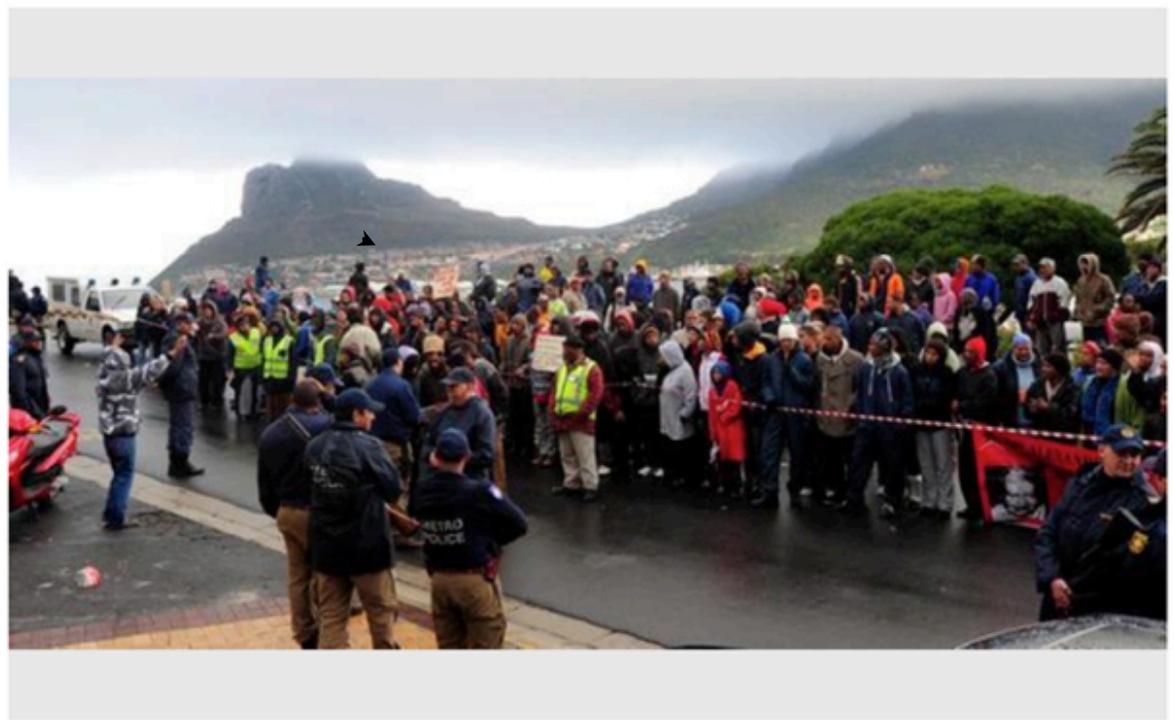/My Destination webpage, 20 Jan, 2012,
http://www.mydestination.com

Kirstenbosch Botanical Garden

Sentinel, Hout Bay
- ecology of violence

A metro cop opens fire in an attempt to disperse angry residents who took part in a violent stand-off against the p[...] Handberg, Hout Bay.

Protesters line up outside the auction.   Photo: Cindy Waxa, Cape Argus

Residents stone the police in Hangberg, Hout Bay, after a violent stand-off erupted in the Western Cape.

Police open fire in an attempt to disperse residents who took part in a violent stand-off against the police in Handberg, Hout Bay.

- The Cape Town City and Province who defended the fire protection zone of the Table Mountain National Park with police and rubber bullets at the Sentinel, demolishing informal settlement houses...

- ... a month later they choose to move the fire protection zone to allow the building "on the slopes of Karbonkelberg, next to Sentinel" (Cape Argus, 22 October, 2010)

- ..."an upmarket elite development for the very wealthy [...] "in spitting distance of the Hangberg." /Residents' Association of Hout Bay interviewed in Cape Argus, 22 October, 2010

Literature on urban ecology

- Background of this study lies in increasing urbanization, greater cultural diversity and inequity, and a notion of deep ecological crisis.

- This to questions about who can claim to be in the know about 'urban ecology', or about different "ways of knowing urban ecology".

Residents stone the police in Hangberg, Hou
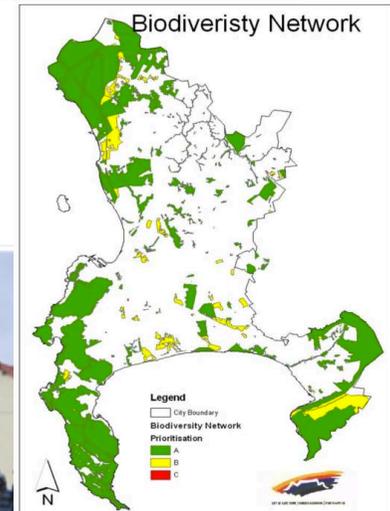
Police open fire in an attempt to disperse residents who took part in a violent stand-off against the police in Handberg, Hout Bay.

Ways

- A) There might be different ways to know Capetonian, Durbanian, Stockholmian or Bangalorian urban ecology

  - 1) Leading to questions about the *politics of knowing,*

  - 2) The political character in claiming knowledge about something

  - 3) What that something—in this case of 'urban ecology'—should signify and mean

- B) That "to know", or to claim that one is "in the know" is embedded in a social practice. That some ways of knowing has claimed 'expertise'.

Bottom Road, Biodiverity Network, and Ecosystem Services - describing three ways of knowing

- One empirical project on tracing how urban ecology is known by residents and civic organizations at Bottom Road/Princess Vlei in Grassy Park

- Two empirical projects on the way by which 'experts' know urban ecology

- Compare these to gain insights and find further questions

Bottom Road and Princess Vlei
- urban ecology as culture, identity and empowerment

1) Recording and analyzing the <u>construction of collective action</u> *and* <u>ways of knowing</u> in and through social and material relations.

- This paper - by departing from actor-network theory (ANT) - "holds that an actor is its relations, and consequently that action can only be materially produced through stabilizing networks of relations that can carry, or translate, action across space to make effects—the ability to 'act at a distance' is performed through aligning, or negotiating a string of [human or non-human] mediators that all need to actively participate to carry action (Latour, 2005; Law, 2009; Murdoch, 2006)."

Ernstson, H., submitted. Re-translating nature in post-apartheid Cape Town: The material semiotics of people and plants at Bottom Road. For submission to World Development.

See writings on actor-network theory (ANT) by for instance Latour, Mol, Law, Swyngedouw and others

2) Recording and analyzing the <u>construction of collective action</u> *and* <u>ways of knowing</u> in and through social and material relations.

- "Departing from a Foucauldian notion of power, 'empowerment' is in this paper thought about as 'the ability to act and change the order of things'. This includes changes in material and symbolic order; or in other words, when collective action changes the distribution of material resources and the way reality is conceived, including shifting or shuffling who can claim to be in the know (cf. Swyngedouw, 2009)."

- "Law (2009) therefore prefers to speak about actor-networks as a "material semiotics", to emphasize that things and people, in stabilizing relations to one another, come to code a way of knowing and being through their relation to one another (see also Mol, 2010))."

- "Actors gain in strength only through stabilizing relations to other actors. This is done through trials over how to connect to one another and these trials are traceable by the empirical researcher. Thus, as relations are stabilized, actors come into being as capable of doing things to the world through a distributed agency. Together, this brings a repertoire to empirically trace and analyse agency and empowerment through collective action. "

Ernstson, H., submitted. Re-translating nature in post-apartheid Cape Town: The material semiotics of people and plants at Bottom Road. For submission to World Development.

Bottom Road and Princess Vlei
## - urban ecology as culture, identity and empowerment

- Started in 2006 in the 'Coloured' area Grassy Park - at Bottom Road - initiated by residents building their houses.

- Trial 1: While building houses, relations were forged between 11 households/residents, finding mutual ground in exchanging struggle stories from the 1980's.

  - The idea of an open community garden with fynbos was formed. Early on the attempt was to "bring dignity back" to Grassy Park, often referring to Cape Flats more broadly, using *fynbos* to "correct the imbalances" that apartheid had left.

  - A test was in the making - can fynbos plants and derelict urban spaces be used to address the 'imbalances' left by apartheid?

- Trial 2: Relation were formed with conservation managers who knew of the *specific soil type* at the location - and could argue for support within their organization.

For more information: Ernstson (in review) and Ernstson 2010a.

Accessing 'structured resources', trials with plants, up-scaling.

- Trial 3: Jointly the 'big' actor Working for Wetland could be attracted to send low-paid workers and machines to do most of the heavy work of removing 'alien' species, move around soils, and plant fynbos plants.

  - Some 50 000 plants 'flowed' to the site and were made to grow at the site stabilizing the site as a site of 'ecological rehabilitation'.

- Residents were daily part of action and design, adding sitting areas for shade (*boomas*) and barbeque places (*braai*) that attracted people, but also bumblebees, fireflies, birds and reptiles.

- Trial 4: With plants. Some fynbos grew "too fast" - remove. Some non-wanted plants kept coming back, named 'weeds' they were removed by employing more labour.

- Trial 5: The 'actors' capacity to grow in scale was tested. Grew to include several other sites and residents at Last Road, and the 'Ecogreen Park' (a square)

BRIDGE

RIVER
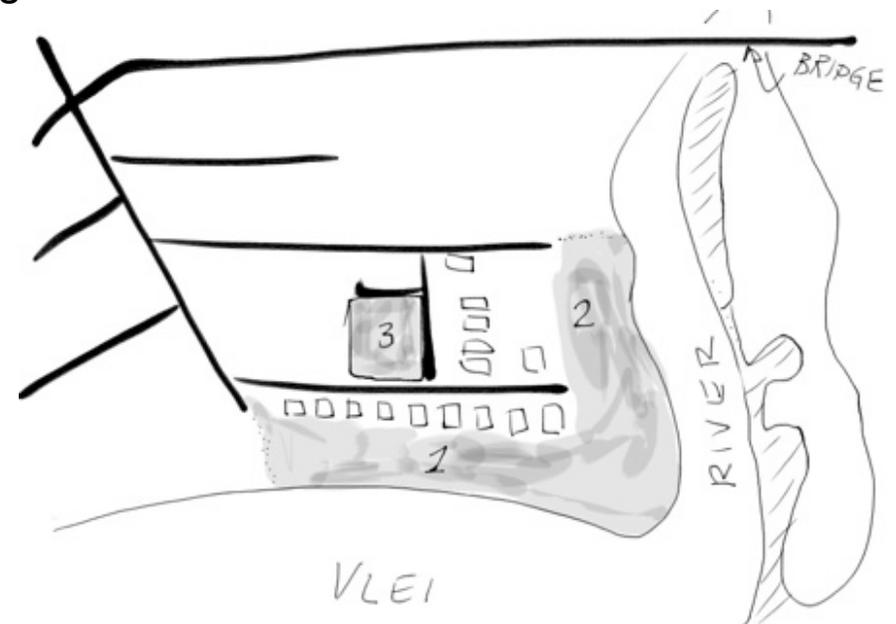
VLEI

"The Dressing of the Princess"

- In August 2008 shifted to much bigger green area and wetland called Princess Vlei through an agreement with City Parks, SANBI; also involving schools.

- Development of 'shopping centre' emerged in September 2009 => Intensity increased in planting (plants as activists); Khoi slave legend; Objection letter day" - cherished recreational site during apartheid.

- Public participation processes during 200-2011. November 2011 the committee on land (Spelum) made the City change to not allow development. In March 2012, Province choose to overrule City's recommendation. Still open question.

- Scale shift from Bottom Road: Some10 local to city-wide organizations involved; also newspaper articles in local and national media turned "The Dressing of the Princess" a circulating reference, spreading its story.

- A new cultural framing of what Capetonian urban nature in-the-making.

For more information: Ernstson (in review), Ernstson 2011a, Ernstson 2011b, Ernstson 2012

An 'in-place' way of knowing urban ecology

- Through being in-place, knowing their "community", using plants to access resources, and mobilize support.

Cape Town Biodiversity Network
- Cartesian and arithmetic ecology

Initiative from around 2000 to support biodiversity and social and recreational values at the city-scales. Sites of value were stabilized through computer programs and civil servants who popularized this view/map at City Hall.

Based on an underlying criteria of biodiversity since this resource is the most "immovable characteristic" of the landscape.

Criteria based on biological characteristics and the range of habitats, species and type of ecosystems.

Biodiveristy Network

Legend

City Boundary

Biodiversity Network
Prioritisation

A
B
C

N
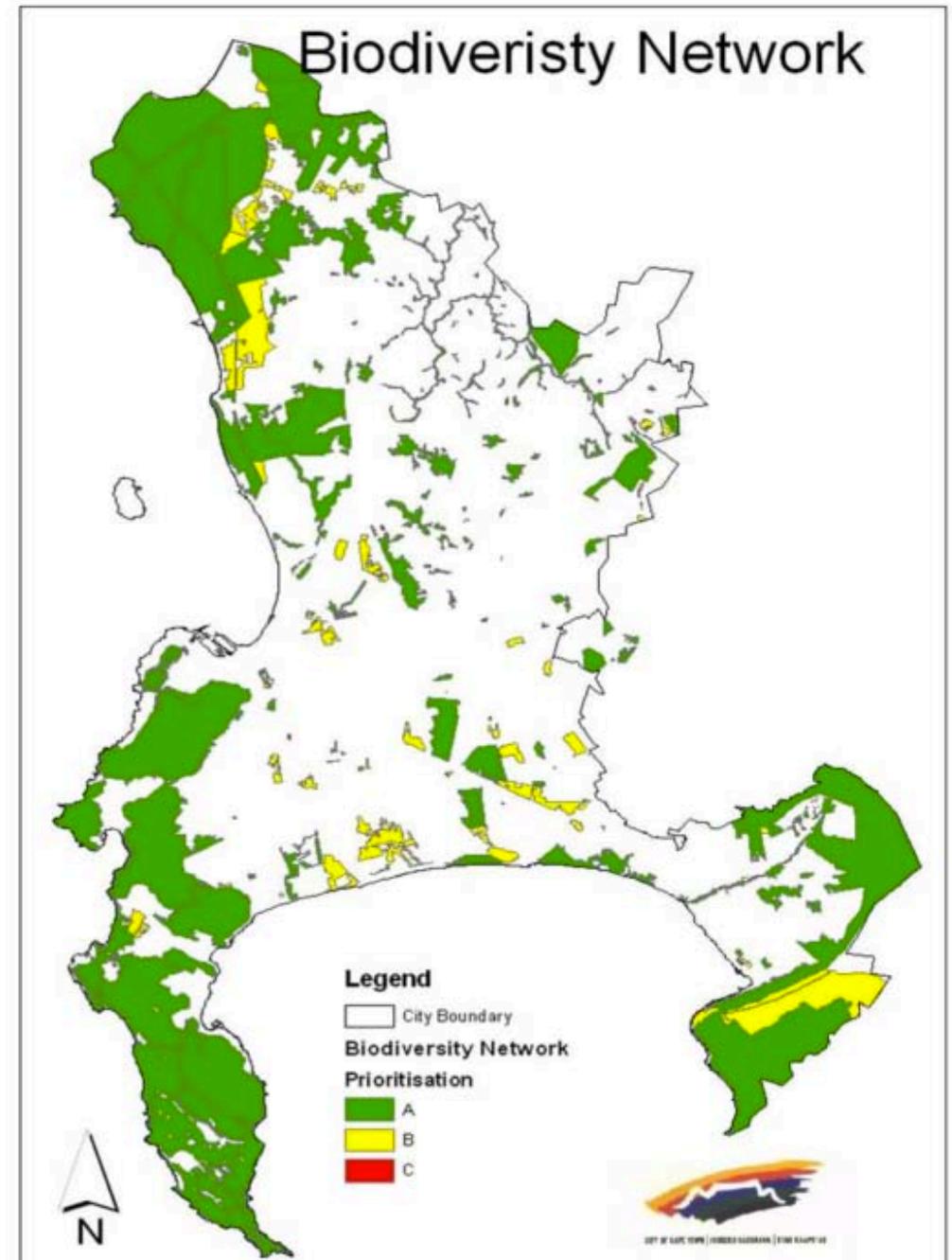
'Business case' for Cape Towns ecology

Initiative started within the Environmental Department and then included consultants through a longer process of workshops between city officials and experts on ecology and economy.

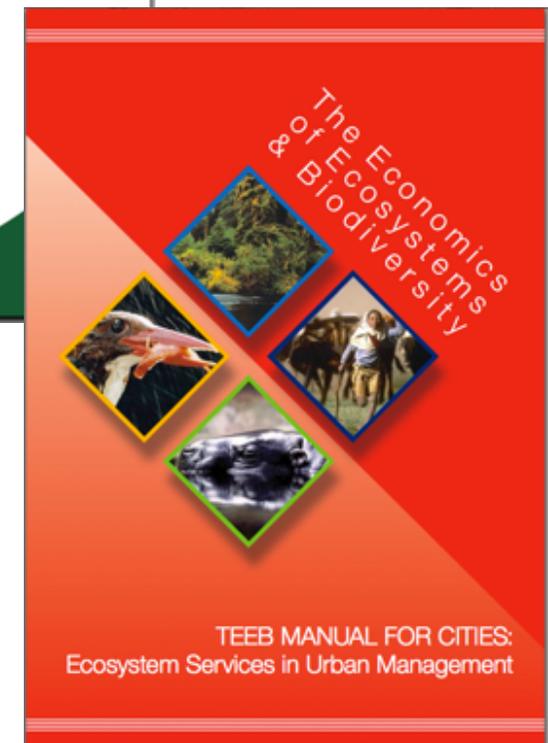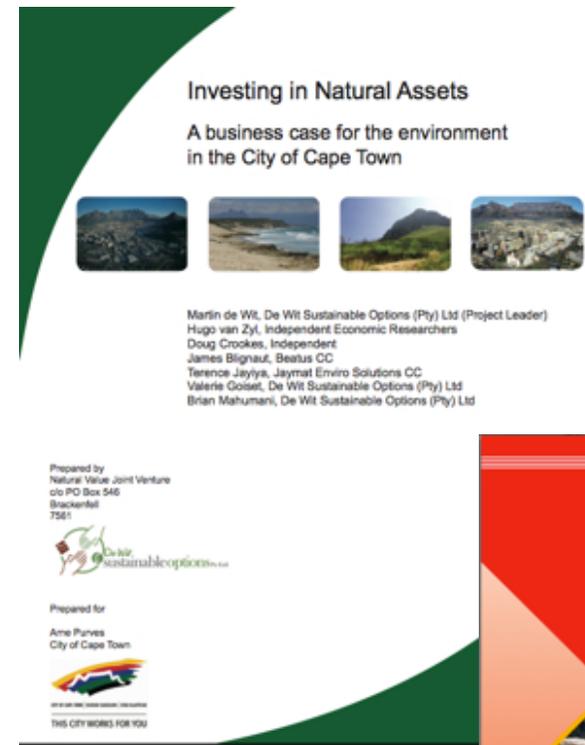'Business case' for natural assets
- Establish economic value of Cape Town's 'natural assets' (2005-2008)

- E.g. function of wetlands for water treatment, but also Cape Town ability to attract film industry for scenery etc. (in total 19-56 MZAR attributed to 'natural assets')

This has led to an international initiative by ICLEI to develop a "TEEB Manual for Cities: Ecosystem services in Urban management" where Cape Town is used as case study based on the consultancy report. However, Cape Town is used without presenting much of its history or unequal spatial geography.

Investing in Natural Assets

A business case for the environment in the City of Cape Town

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The Economics of Ecosystems & Biodiversity

TEEB MANUAL FOR CITIES:
Ecosystem Services in Urban Management

Ernstson, H., & Sörlin, S. (in review). Articulating values in urban nature: ecosystem services as technology of globalization. *Ecological Economics*.

Analysis: Epistemological claims

- The initiative at Bottom Road and Princess Vlei seems to have challenged—or demonstrated an alternative—for 'biodiversity protection' in Cape Town which has been built on experts and 'nature reserves'

- The sociomaterial actor - both social and physical and in-place - challenges **who**, **where** and **how** to 'take care of nature in Cape Town'...

	Established actor-network	Emergent actor-network
Who? [performed by]	(mainly) 'white' experts	coloureds, black every citizen
Where? [mobilized spaces]	Protected areas Nature reserves Nature is found within Cartesian zones.	Any area Derelict neighbourhood areas in marginalized areas. Nature is everywhere.
How? [produced action]	Through protecting sites of 'nature' and have experts care for the plants and animal life there. Focusing resources on the protected areas.	By mobilizing residents and civic associations in relation to green public space and move plants into the soil of these spaces. Continously expanding to new (public open) spaces.
Value claims? [what is value]	Number of different plants at a specific site/green space.	The strength of the "socioecological link" between humans, plants, animals and a particular site/green space.

Analysis: World-making abilities (stabilizing ontology)

- Using 'urban nature' and fynbos to address the "imbalances" after apartheid.

- Striving to show that fynbos is not only the counting of different species, but that these plants can also be capable of carrying the memories of colonization and apartheid and serve to "correct the imbalances" of apartheid.

	Established actor-network	Emergent actor-network
Onto-politics in Cape Town	Nature is 'the counting of different species'.	Nature is (also) about apartheid and oppression.

Engaging 'ecology' or 'nature' is to re-translate 'ecology' into something different.

(Annmarie Mol, Donna Haraway, Saraha Whatmore)

Mikey in an interview:
"You see, when you say fynbos to people, lets take the coloured people. Say fynbos to them, and they tell you, 'what is that'. 'No, that must only grow in the mountain, or it only grows in Kirstenbosch [Botanical Garden].' That's the belief system. Now, one must understand this, that [the reason] they believe that, [is] because that is what is projected."

"[O]ur people can't afford to go to Kirstenbosch. […] No, and why should they, is the question mark I ask. I've always said to them we need to create more Kirstenbosches. Don't come tell me there's Kirstenbosch. […] We need to bring that people or the reserves closer to the people. Let them interact and let them find that peace and tranquillity. You know, that has been my fight. Has been from the day we started at... Bottom Road, like I've always said to you, it's only the alpha; it's not the omega of things."

Contrasting Cartesian and
'*In-place*' ways of knowing

"In response to this Cartesian and detached selection of sites to prioritize—made in an office using a computer program and a computer screen—the Bottom Road actor-network insists that biodiversity conservation needs to be hands-on, and needs to involve people; it needs to weave linkages between communities and plants, and continuously mean that you move with your own body through the spaces where people exist, not necessarily plants, and use this information as a way to select the next site. Instead of trying to learn-before-action; action comes first in order to learn—feel, try and stabilize those relations that perforate the old Nature/Society dichotomy. Plants do not come first—but 'human-with-plant' is the only way; a hybrid logic. An almost reversed logic."

Citation from: Ernstson, H. (in review) Re-translating urban nature in post-apartheid Cape Town. World Development. (Presented at LSE London, July 2011)

Bottom Road and Princess Vlei
- urban ecology as culture, identity and empowerment

- Using 'urban nature'; fynbos plants and green areas to construct and sustain collective action changing biophysical processes and cultural framing of nature.

- Plants participate as things (just as the biodiversity map does for the 'experts') to stabilize a certain way of knowing urban ecologies

- Striving to show that fynbos is not only the counting of different species, but that these plants can also be capable of carrying the memories of colonization and apartheid and serve to "correct the imbalances" of apartheid.

- A test is being made to infuse 'biodiversity' and the knowing of biodiversity with political content.

Summing up: three descriptions of ways of knowing urban ecology that have all been stabilized through social and material relations.

- Cartesian way of knowing Capetonian urban ecology

- Business case way of knowing (ecosystem services)

- *In-place* way of knowing Capetonian urban ecology
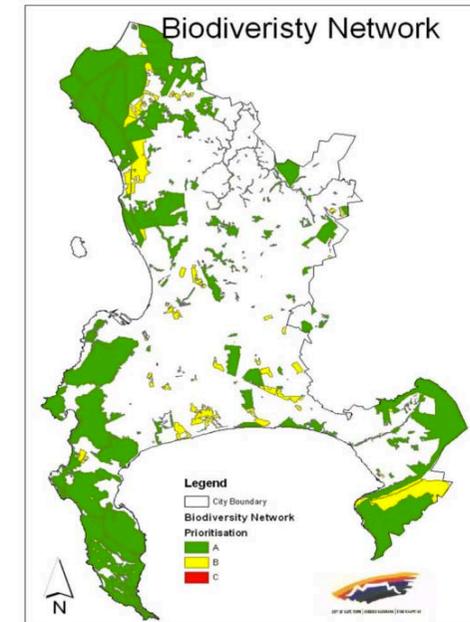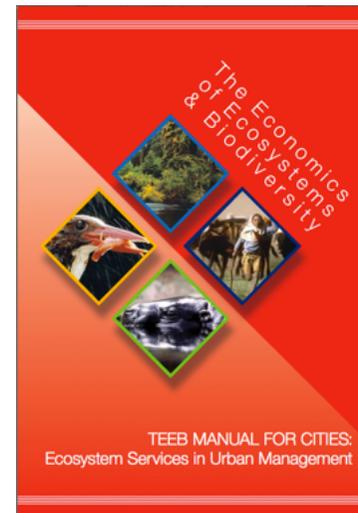
On ecosystem services...

Articulating Values in Urban Nature: Ecosystem Services as Technology of Globalization

Henrik Ernstson[1,3,4] and Sverker Sörlin[2,3]

Articulating Values in Urban Nature: Ecosystem Services as Technology of Globalization
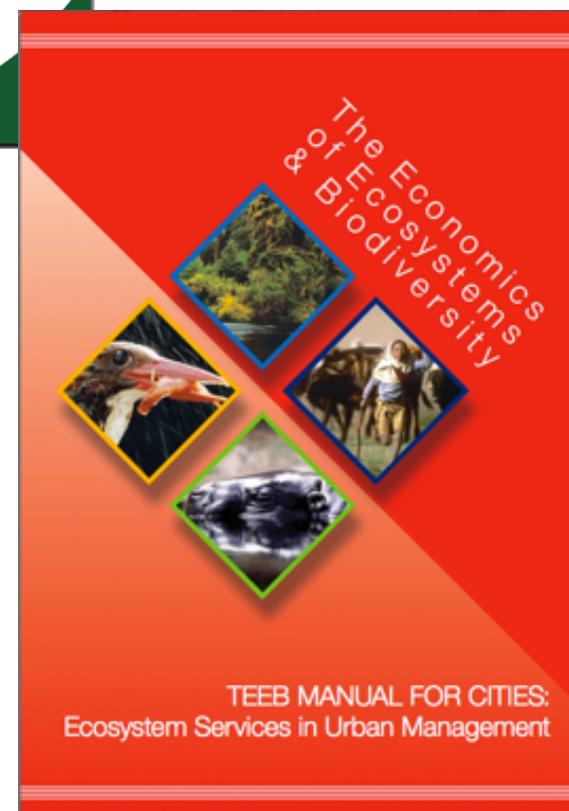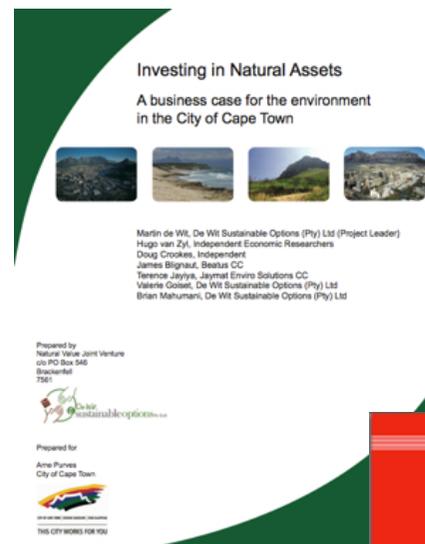
Henrik Ernstson[1,3,4] and Sverker Sörlin[2,3]

"You cannot manage what you do not measure."
The Economics of Ecosystems and Biodiversity
(TEEB), http://www.teebweb.org/, January 15, 2012.

"Ecosystem services" has made a quick transition from metaphor to increasingly stable framework for quantification, and also pricing, of aspects of ecological complexity.

Critique of ESS:
- skewed and biased view of the concept 'service'.
- lack of concern with equity, social diversity, and distribution
- difficulties of measurability and comparability of 'services' ('cultural ecosystem services')
- ESS framework risks 'blindfolding' society of the complexity since presents a a 'stock-flow' model of nature (Norgaard 2010).
- ESS approach, especially if monetized, will lead to "commodity fetishism" (Kosoy and Corbera 2010) a vehicle to expand capitalism into ecosystems (Castree 2008b, a)

Investing in Natural Assets

A business case for the environment in the City of Cape Town

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The Economics of Ecosystems & Biodiversity

TEEB MANUAL FOR CITIES:
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Articulating Values in Urban Nature: Ecosystem Services as Technology of Globalization

Henrik Ernstson[1,3,4] and Sverker Sörlin[2,3]

Part of the article traces how a consultancy report for making the 'business case' for Cape Town's "natural assets" was made into a globally circulating reference for how to evaluate urban nature in all cities. It uses this to show how 'ecosystem services' is embedded in a social practice to stabilize certain values. These are compared with locally based efforts to articulate values in urban nature.

Interesting note: The description of Cape Town is more or less completely devoid of apartheid history or else cannot serve as example to the world.

Results:
The ESS approach to articulate value in urban nature seems to be erected from a 'non-place'—a place devoid of politics and cultural bias —and uses a set of standardized methodologies that supposedly can deduce 'true' values of ecosystems for any place, or any city, anywhere, at any time.
-- However, these (e)valuations come to interfere and interact with other modes of articulation values.
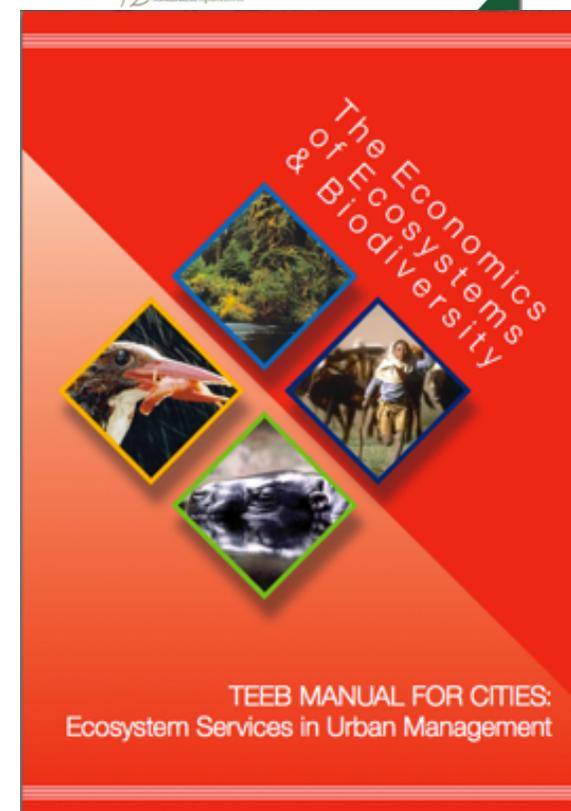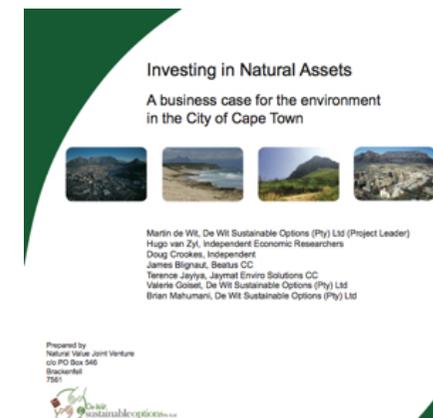-- How is the cultural embeddeness of Princess Vlei captured in an ESS approach? What ways of knowing is silenced?

Articulating Values in Urban Nature: Ecosystem Services as Technology of Globalization

Henrik Ernstson[1,3,4] and Sverker Sörlin[2,3]

The overall result of moving contested nature out of the political, and into the managerial—the quantified and (quasi)scientific. This mode of de-politicization is construed through a number of universalizing elements:

- **De-historicization** – the decoupling of objects of analysis (ecosystems, parks, cities, neighborhoods, etc.) from real world actors, events, and processes.

- **De-contextualization** – disregarding social realities, conflicts, interest driven contestations and actual use of ecosystems on the ground.

- **De-ecologization** – focusing on the measurable services of individual species or single systemic effects, paradoxically disregarding traditional holistic and interactive dimensions of ecology (Norgaard 2010).

- **Silencing** – privileging particular strands of expertise (Bocking 2004, Sörlin in press), marginalizing voices that are local, including those that represent traditional ecological knowledge (Howitt and Suchet-Pearson 2003, von Heland and Sörlin in press).

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Summing up

- Ethnographic case study from Cape Town - Bottom Road; appropriating fynbos for empowerment, infusing the political into biodiversity.

- Three ways of knowing Capetonian urban ecology: In-place at Bottom Road, Cartesian Knowing through the Biodiversity Network, and Business Case through Ecosystem Services.

- Critique of Ecosystem services way of valuing urban nature.

- Studying city-wide civic networks and collective action processes. Workshop in June with Mario Diani at UCT. Could DS/CCS be interested?

Thank you!

Publications of relevance for this talk:

Ernstson, H., submitted. **Re-translating nature in post-apartheid Cape Town**: The material semiotics of people and plants at Bottom Road. For submission to World Development.

Ernstson, H., Sörlin, S., in review. **Articulating values in urban nature: ecosystem services as technology of globalization**. Ecological Economics.

Ernstson, H., in review. **The social production of ecosystem services:** Environmental justice and ecological complexity in urbanized landscapes. Landscape and Urban Planning.

Stockholm studies:

Ernstson, H., Sörlin, S., Elmqvist, T., 2008. **Social movements and ecosystem services:** The role of social network structure in protecting and managing urban green areas in Stockholm. Ecology and Society. 13 (2), 39.

Ernstson, H., Sörlin, S., 2009. **Weaving protective stories**: Connective practices to articulate holistic values in Stockholm National Urban Park. Environment and Planning A. 41 (6), 1460-1479.