

Appendix 1, Root-Bernstein & Guerrero-Gatica

A social sciences and humanities approach to our study system would require a nuanced understanding of the complexities of each situation. We have not had the time or capacity to adequately study the complexities of all of these issues from a social sciences and humanities perspective. Here we list an incomplete but indicative set of questions that future research will need to answer, focussing on social science and humanities issues and the sociology of science, and with some bias towards our personal interests and knowledge base.

Ecological context

1. **Rewilding in Chile:** How is rewilding perceived by different stakeholders, including decision makers and governmental institutions? What are the arguments for and against rewilding in this context? How do international rewilding principles promoted by some actors, such as “coexistence”, fit in with Chilean views, cultural orientations, and regulations? Is there a resonance with Indigenous worldviews, either in a broadly Andean or in a Mapuche context (and according to whom)? How would aligning with Indigenous worldviews affect how rewilding would be viewed by other Chilean actors, given Chile’s history and the current status of Indigenous peoples in Chile?
2. **Alliances and consensus:** What does an alliance consist of in the Chilean environmental conservation and restoration research and practice context? How are these relations negotiated? How are conflicts managed? By what formal or informal methods and through what forms of relation are consensus built? Are they true consensus, or is this a kind of social fiction? What are the limits of consensus, and how are these perceived or tolerated by the stakeholders involved? What are the politics behind the decision-taking processes inside conservation and restoration research and practice?
3. **Wildfires:** What is the official position (of CONAF/ Ministry of the Environment) on how to control the increasing risk of wildfires in sclerophyllous forests? Have they taken the role of succession dynamics into account, and if so in what way? How is the regulation of leaf raking and removal of grazing livestock expected to impact this risk, according to officials? Are they making a trade-off across different risks, and how do they make this assessment? Are there alternative proposals for reducing the risk of wildfires in sclerophyllous forest? How does the imaginary of future wildfire risk intersect with the imaginary of future rural development?
4. **The potentially missing ecological roles of guanacos, and other absent species:** According to what criteria should we determine which other potentially absent species should be assessed (and how)? How do the ecological impacts

of the ecological roles of guanacos (and other species) change with context and scale? What are the main determinants that determine the perceived effects of guanacos by different stakeholders (for whom)?

The research politics context

5. **The evidence context:** What kinds of evidence are required or seen as valid in order to convince different experts or stakeholders that certain species were present (rare, common, or abundant) in central Chile across the Pleistocene and Holocene? How are the different forms of interpretation of data, for example between archeozoology and paleontology, historical document analysis, and ecological science, negotiated and communicated across disciplines? What level of uncertainty or speculation is tolerated by different experts, decision makers, and other stakeholders?
6. **Passive repopulation vs. active reintroduction/ translocation:** Who exactly are the experts who support passive repopulation, and what are their roles in shaping public policy? Is there a difference in view between geneticists and other kinds of scientific experts? What is the scientific argument in favor of passive repopulation? What is the management argument, and the role of resources and priorities in this argument? Has a formal official decision been taken to prevent translocation of certain populations, or is it discretionary, and in either case what is the decision-making procedure and the role of resources, politics, and experts? Why has the best-practice assessment method, developed over ten years ago by Frankham and colleagues, not been carried out to assess which populations of guanacos should and should not be translocated? What is the attitude and/or scientific opinion of different experts and officials in Chile towards this assessment method? What are the motivations and reasonings behind current efforts to prove that guanacos have local genetic adaptations (which is not part of the best-practice assessment method)? How do different understandings of genetic determinism vs. plasticity and epigenetics play roles in shaping research strategies and decision-making around translocation?
7. **Pre-colonial ecological baselines:** A more nuanced and detailed review of the literature from the 1960s-1990s can be undertaken to pinpoint the origins of early ideas about the pre-colonial ecological baseline for central Chile, the exceptions and the disagreements or contradictions inherent to this literature, some of which were later glossed over. What was the role of comparison with other

mediterranean-climate habitats (popular at that time) in informing this research? How have changes in trends in ecological research affected experts' views on the likely pre-colonial ecological baselines since then?

8. **Do guanacos belong in woodlands:** “Belong” is a social claim, rather than a scientific term, and thus represents the cross-over between scientific evidence and advocacy: how is this cross-over managed by researchers, and perceived by stakeholders, both ethically and epistemologically? What is the scientific evidence that guanacos live in woodlands only due to anthropogenic pressure, and why is this sometimes referred to as “unnatural”? What is the conception of naturalness and of the role of humans in influencing other species that is in play here, and what are its implications? Exactly which experts believe that guanacos live in woodlands only due to anthropogenic pressure (is this conclusion shared all across the geographical range of guanacos or is it specific to Chilean researchers)?
9. **Nativeness and naturalness of guanacos and *Vachellia caven* in central Chile:** Which stakeholders want to know about issues of nativeness and naturalness? What are the different ways that stakeholders understand these terms? What kind of evidence or arguments would different stakeholders accept regarding these species and those concepts? What is the role and responsibility of scientists to provide evidence for or against how species fit these concepts when they themselves critique them as scientific categories? What is the role of the audience or interlocutor in shaping scientific research?
10. **Cultural values justification:** Questionnaire-based assessments of values can be biased because they ask questions and suggest answers that do not arise in normal conversations and social contexts: what would be the result of a discourse analysis of different media, or an ethnographic approach? How are values expressed and mobilized in Chilean society? How are the specifically environmental values shaped? What is the relationship between environmental values, representations (e.g. of landscape), and territory? How do we define these terms in a Chilean context (e.g. landscape vs. territory: are they understood as different and by whom)? How do the privately held valuations of local territories and their representations translate into public policy?
11. **Economic benefits justification:** In the Chilean context, does economic value increase or decrease the perception of other values associated to the same species or territory? How are multiple-value evaluations performed by stakeholders? What is the role of the rapid economic transformation of the territory from subsistence economies based on a kind of debt slavery and barter, to a neoliberal money-based pro-entrepreneurial economy, in shaping relations to the territory, and forms of valuation?
12. **Historical and geographical Context:** What are the geographical areas and the timelines for charcoal production, clearing for agricultural fields, and other

traditional extractive resource practices? What kind of knowledge and practices were/are drawn on to manage and organise these activities in the past, as well as the present? How did social and gender inequalities condition access to different kinds of resources, and how did this affect their exploitation (and how has this changed over time)? How have the transformation drivers at local scale shifted geographically over time, and how have they changed over time? How are these projected to change in the future? What are the built territorial relations in central Chile between different stakeholders? How does social and political history affect relations to the environment or to the territory? What are the historical, social, political, and cultural origins of the anti-peasant attitude? What are the different aspects of this attitude? Who exactly holds this view? How it is expressed in public policies, in land management and access rights, and in different social contexts? What are the different attitudes and affects associated with specific places and the history of their environmental, legal, or social transformation? How do these affective relations affect other relations such as social relations, or vice versa?

13. Political and socioeconomic Context: How does the history of national politics and policies interact with internationally-driven policies, whether from the OECD, international conservation conventions, or other sources to affect how issues like land reform, rural development and neoliberal economic development are understood by various actors? How does the socioeconomic condition in human-nature interfaces (mainly rural landscapes) shape the people's disposition to conserve and restore? What makes a particular territory "rural" (to be developed) as opposed to "Nature" (to be conserved) in terms of policy (or are there other relevant categories)? To what extent is this driven by data and pre-defined analytical categories, and to what extent is it driven by other kinds of perceptions and knowledge? Are there other relevant categories of territory we need to consider? With what local concepts would different actors describe the moral forces at work leading to changes in non-urban territories? What were/are the economic and regulatory drivers for the local practices?

14. Current conservation and restoration in Chile: What are the cultural, economic, social, and political factors that have shaped the various issues that attract more and less attention in conservation and restoration in Chile? What is the role of western visions of "Nature" and "wilderness", and how have those changed over time in the Chilean context? What is the role of economic development in the valuation of habitats and landscapes? How has the strong neoliberal development trajectory influenced the development of restoration ecology and conservation biology as disciplines? What does "degradation" mean in the central Chilean context, who uses this term, and how does it affect relations to the environment or the territory? What is the symbolic aspect of the

environment or territory, how are these enacted by different stakeholders? How did the social movement of 2019 and the failed constitutional reform effort affect these issues, both practically and in terms of the imaginary of the possibility of change or the imaginary of the future?

15. Actors who support our vision: What are the different reasons and motivations for supporting the vision of Kintu? How does someone transition from passive interest to active support and collaboration? Who counts as a stakeholder (and for whom)? How is stakeholder support understood and managed socially? How is the figure of the person “*que no cumple*” understood in Chilean society, and how is this managed when forming collaborations, coalitions, and applied projects?

16. Involvement of local communities: How can regional-scale projects, which imply the implication of more than one community and thus some form of coordination, avoid a top-down neocolonialist mode of operation, and favor spontaneous collective action? When does persuasion, outreach, and accompaniment cross over into manipulation and control? How do conservation or rewilding actors conceptualize power and influence and their justified use? How are power and influence conceptualized, evoked, and mobilized in Chilean society? How can conservationists and rewilders construct relations with communities that are equitable, free of coercion, and ethically sound? Can social conflicts over a conservation or rewilding projects ever be justified (according to whom and on what basis)? Can they ever be avoided? What are the social institutions necessary to guarantee social and environmental justice for all stakeholders in the central Chilean context, and how does this relate to the set of existing institutions? How do historical and current forms of inequality in Chile affect the outlook and best approach for dealing with these issues in central Chile?