Land-Grab Universities: Methodology and Sources Robert Lee

Overview

Over the past two years, *High Country News* has located more than 99% of all acres distributed through the Morrill Act of 1862 (or in lieu thereof), identified their original Indigenous inhabitants and caretakers, and researched the principal raised from their sale in the late 19th and early 20th centuries. We reconstructed approximately 10.7 million acres taken from nearly 250 tribes, bands and communities through over 160 violence-backed land cessions.

This unique database was created through extensive research into primary source materials, including land patent records, congressional documents, historical bulletins, archival and print resources at the National Archives, state repositories, and special collections at universities, digitized historical maps and more. Information for the database was extracted programmatically where possible, primarily from the Bureau of Land Management's General Land Office database, but in some cases it was transcribed manually from print records, microfilm and microfiche reproductions, or poor-quality digital images.

We encourage exploration of the database and invite feedback if you see omissions, errors or miscalculations. Since no other database of this kind exists — location and financial analysis linked to approximately 80,000 individual land parcels distributed through a Civil War-era law — we are committed to making it publicly available and as robust as possible.

This database can be downloaded as CSV and shapefiles. The database is licensed under the Open Database License and the contents under the Creative Commons Attribution-ShareAlike license.

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Steps

To reconstruct the redistribution of Indigenous lands and the comparative implications of their conversion to endowment capital for land-grant universities, we followed procedures that can be usefully categorized in seven steps:

- 1) We identified the university beneficiaries;
- 2) Determined the size of the state grants;
- 3) Identified the grant parcels;
- 4) Mapped the grant parcels;
- 5) Compared the parcel locations to Indigenous land cessions;
- 6) Determined and distributed payments for Indigenous title; and
- 7) Determined and distributed principal raised for endowments.

1) Identifying the university beneficiaries

We identified 52 beneficiaries of the Morrill Act in 47 states.

The Morrill Act of 1862, with subsequent extensions and amendments, made states eligible for a land grant for an agricultural and mechanical college. Territories not yet states were grandfathered in with "in lieu" clauses through their state enabling acts, occasionally with some acreage supplemented by other laws. Three states did not receive specific grants of agricultural and mechanical college land, either directly through the Morrill Act or via their state enabling acts: Oklahoma, Alaska and Hawai'i. For this reason, these states were excluded from our data set. This does not, however, mean they do not have "land-grant" colleges. Oklahoma received an agricultural college land grant located primarily on Osage and Quapaw cessions in lieu of other 19 century internal improvement grants, managed it like a Morrill Act grant, and sold it quite profitably. Alaska received a small (and incomplete) amount of land for an agricultural college through territorial-era laws in 1915 and 1929. Hawai'i received a cash endowment, a model that was later used to create landless land-grant colleges on island territories like Puerto Rico and Guam. In 1994, and in the years since, a number of tribal colleges have been given "land-grant" status without receiving land as well, making them eligible for contemporary federal funding tied to that status. Today, there are 112 "land-grant" colleges and universities.

By the early 20th century, 52 of those schools became beneficiaries of land distributed through the Morrill Act or subsequent enabling acts. That figure comes from a review of federal bulletins published by specialists in land-grant college statistics, in particular *The Land Grant of 1862 and*

the Land-Grant Colleges (1918) by Benjamin F. Andrews and Land-grant colleges and universities, 1862-1962 (1962) by Henry S. Brunner. In the early years of the grants, states sometimes shifted the beneficiaries, though most chose a single one and stuck with it. Five states split the benefit, one in the Northeast — Massachusetts split its benefit between the University of Massachusetts and MIT — and four in the South, where part of the benefit was directed to historically Black colleges. We have noted grant-assignment histories, but not made a systematic effort to account for the experience of relatively short-lived late-19th century beneficiaries, like UNC-Chapel Hill. The most notable former land-grant universities are Yale University and Brown University, because both were able to extract substantial settlements from their states when the grants were reassigned to state universities in the 1890s.

To represent these universities in GIS, we created a point file by extracting the locations from the Geographic Names Information System (GNIS).

2) Determining the size of the state grants

We identified about 10.7 million acres split unevenly between the states. These ranged from nearly 990,000 acres in the case of New York to slightly less than 90,000 acres for states like Delaware and Oregon.

The most common statistic in circulation is that the Morrill Act ultimately authorized the distribution of 11.4 million acres. One occasionally sees reports that it was 17.4 million acres. The former is closer to the mark, but it describes acres authorized for distribution, not acres received. The latter is apparently a typo that has taken on a life of its own. For our investigation, it was important to identify the physical acres *received*, and we determined that the actual acreage distributed was somewhat less than authorized.

To see why, it helps to understand that the grants could take two forms, depending on a state's location. Eastern states that never had public domain land, as well as Southern and Midwestern states that had little public land left by the 1860s, received packets of scrip — a kind of voucher for land in the West. The scrip came in 160-acre denominations and could be redeemed anywhere on the surveyed public domain. Western states with plenty of public land had to choose parcels from within their borders, as did Western territories when they became states. Their acreage selections sometimes totaled significantly less than they were allocated because of a rule that double-minimum lands — that is, parcels near improvements deemed worth at least twice the federal minimum price — counted for double against the allowance. That is why, for instance, Minnesota actually obtained only 94,439 acres from a 120,000-acre grant.

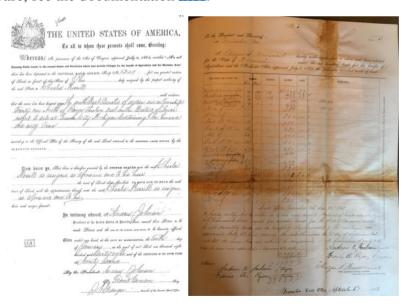
Most of the difference between the acres authorized and those distributed came from double-minimum selections. Again, the statistics in Andrews' bulletin provide the best single source on "acres actually received." We inspected Andrews' figures and made a number of modifications. Andrews, for instance, did not systematically account for small reductions due to the 160-acre

scrip vouchers not being perfectly divisible by the grant size (a 150,000-acre grant would only yield 149,920 acres worth of scrip, for example), or for unique events, like the time Cornell lost 14 pieces of scrip in the mail. In three instances — Missouri, Michigan and Iowa — university publications offered more precise acreage counts. In one instance —New Mexico — Andrews did not include 100,000 agricultural college acres granted under the Ferguson Act (1898); the state of New Mexico considers them "in lieu" of the Morrill Act, so we included them.

3) Identifying the grant parcels

We employed a variety of digital and archival methods to locate 79,461 parcels of public domain land comprising the state grants and used the expected size of each state's grant as a benchmark to measure the completeness of the coverage.

The single most important source for identifying the Morrill Act parcels was the General Land Office Records (GLO) digitized by the Bureau of Land Management. The Bureau of Land Management has been digitizing land-patent records since the late 1980s. Among them are tens of thousands of land patents tagged as being issued under the legal authority of the Morrill Act (Authority "State Grant-Agri College [July 02 1862] (12 Stat. 503), authority code 262201), the state they were patented in favor of and the location of the parcel, as well as the name of the patentee and the date of the patent. In most instances, the BLM has a digital image of the original land patent. (See below.) We exported these parcels from the BLM's database and filtered out duplicates. For additional information on the BLM's GLO record automation program and how to search its database, see the documentation here.



Left: A patent issued under the authority of the Morrill Act from the GLO database

Right: A state selection list of Morrill Act parcels from the National Archives

The GLO database also has a less readily accessible form of Morrill Act parcels associated with state enabling acts, but it does not distinguish between various types of state selection lists. To identify Morrill Act parcels in this source base, we visually inspected digital copies of state selection lists to flag selections of "agricultural college" parcels. Once flagged, many of these lists could be extracted from the GLO dataset digitally. We found, however, that a significant number of these lists had digital copies of the selection lists but partial or incomplete transcriptions of their locational data. Where necessary, we transcribed them.

The GLO database is a large and useful resource, but it is neither complete nor specific about its coverage gaps. Using our benchmarks for the size of the grants, we were able to both assess that completeness and identify gaps in coverage, many in the form of a total absence of records for a state's Morrill Act grant.

To fill these gaps, we conducted research in archival and print sources. The most extensive archival sources were the state grant selection lists contained in the Records of the Bureau of Land Management (Record Group 49), at the National Archives in Washington, D.C. (See above.) When we could not locate these records in Washington, D.C., we looked elsewhere. Much of our data on Missouri's grant, for instance, comes from a pamphlet of parcels for sale published in 1872, a copy of which is housed in the Special Collections of the University of Missouri, Columbia. Similar lists published by the Board of Trustees of Iowa State and published public documents from South Dakota proved similarly useful. The Minnesota Historical Society provided copies of state selection lists on microfilm. We collected similar lists from microfiche in New Mexico from the BLM's state office. All of the parcels listed in the archival and print material had to be transcribed by hand, making a record of the beneficiary state, the location of each tract on the public domain, and the acres listed.

Close study of the data will show that we sometimes found slightly more than 100% of our benchmark acreage. One cause for this appears to be — not surprisingly — that the actual size of a land parcel did not always conform to its predicted size; that is, sometimes a quarter section was perhaps 163 acres instead of the standard 160. In such cases, the scrip could be redeemed with the patentee paying a fee for the extra acres. The converse was also possible, namely that a quarter section might contain slightly less than 160 acres. In that case, the scrip could also be redeemed, and the credit for any extra acres seems to have been lost, which of course could contribute to our finding less than 100% of our benchmarks. Other overcounts may be due to subsequently canceled parcel selections. Other undercounts are due to missing (or as yet undiscovered) sources or illegible records.

To be sure, there could be multiple approaches to the large and unwieldy task of assembling this land-parcel corpus. We approached it this way to take advantage of the work that has gone into amassing the GLO's digital dataset and minimize transcriptions. The result is a list of parcels,

which, judging against our benchmark, represents over 99% of the actual Morrill Act acreage distributed for the benefit of land-grant universities.

4) Mapping the grant parcels

Using our parcel list, we created a polygon shapefile in ArcGIS to map the parcels within the U.S. public domain.

To see how this worked, consider a land-grant parcel whose Public Land Survey System (PLSS) notation reads "MT200150N0230W0SN020AW1/2SE."

Read from right to left, this string describes an 80-acre parcel: the Western Half of the Southeastern Quarter of Section number 20, of Range 23 West, Township 15 North, of the 20th Principal Meridian in the state of Montana.

This parcel does not exist in an extant PLSS dataset, but it can be reconstructed from one.

The spatial files that formed the basis for our polygon reconstruction come from the PLSS standardized data for the <u>Cadastral National Spatial Data Infrastructure (PLSS CadNSDI)</u> dataset. These files are available on the state level and include polygons from the public domain at the township, section (first division), and frequently the aliquot (second division, or quarter-quarter sections).

To generate a polygon for the parcel above, we used the second division PLSS CadNSDI data for Montana and merged two quarter-quarter sections to generate a half-quarter section; that is, we merged the Southwestern Quarter of the Southeastern Quarter (SWSE) and the Northwestern Quarter of the Southeastern Quarter (NWSE) of Section Number 20, of Range 23 West, Township 15 North, of the 20th Principal Meridian in the state of Montana. The result yielded a polygon for the Western Half of the Southeastern Quarter (W½SE) for the necessary section.

For the vast majority of parcels in our dataset, we could either reconstruct their location in this way or (typically in cases involving quarter-quarter sections, full sections and some lots), simply match them to extant first division or second division PLSS CadNSDI polygons.

We reconstructed a small number in a similar fashion from township polygons and had to hand-draw several from first division PLSS polygons.

We were not able to reconstruct a small but significant subset of the parcels — all of them irregularly shaped lots — at the aliquot level. These are represented by square-mile sections, or portions thereof, in which the lot in question is located. Put another way, 99% of the acres spatially represented by the dataset are accurate roughly to the acre. The other 1% is accurate to the square mile.

A tiny fraction (7,100 acres, or less than one-tenth of 1% of the acreage identified) could not be spatially located because the PLSS notation was incomplete or illegible.

5) Comparing parcel locations to Indigenous land cessions

With the parcels located, we could then compare their locations to Indigenous land cessions.

Focusing on the legal tools that extinguished Indigenous title, we relied on digital versions of the maps produced by Charles Royce for the Smithsonian in the late 19th century. In recent years, digital versions of these maps — a standard used by historians and courts throughout the 20th century — have become available. The University of Georgia's eHistory.org created georeferenced digital copies, as has the U.S. Forest Service, which has embedded shapefiles with metadata on cession dates, tribal signatories and more. The 67 Royce maps describe 718 Indigenous land areas covering nearly all of the U.S. public domain in the contiguous states. The schedule associated with the land areas provide additional information on the type of cession, for instance, whether the legal instrument involved was a treaty, unratified treaty or executive order.

In ArcGIS, we spatially joined parcels (using their center points) to digitized Royce maps. This connected the parcels to 156 land-cession areas. These connections were used to describe how, when, and from which Indigenous nations the parcels first entered the public domain. We restricted our search to initial acquisitions of title by the United States. There are certainly some parcels in this dataset that overlap with reservations of nations removed to the West that were created, then retaken, by the United States.

A small number of the parcels fell outside of the Royce maps — on lands seized by the United States without treaty or agreement — in North Dakota, South Dakota, Mississippi, California and Louisiana. To begin the process of connecting these Morrill parcels to their original owners, we georeferenced the map of "Indian land areas judicially established" (1978) by the Indian Claims Commission. For parts of southeastern California, we used a georeferenced copy of "Historic Native American Territories in California," from the *Handbook of North American Indians*, Vol. 8 (1978). For three parcels in Louisiana, we georeferenced John R. Swanton's "Indian Tribes of the Lower Mississippi" (1909). This process added six Indigenous land areas overlapping Morrill Act parcels to the total.

Following this process, we identified 162 Indigenous land areas that corresponded to the Morrill parcels, and connected these areas to the names of their owners as referenced in Royce or the supplementary maps. Connecting these nations and signatories to their respective names today is beyond the present capacity of this project. We hope the connection of Indigenous territories to Morrill parcel data will be further refined and corrected as the data are made public. Those who want to better understand Indigenous sovereignties on the same land areas today may consider consulting native-land.ca.

6) Determining and distributing payments for Indigenous title

After identifying the Indigenous land areas corresponding to the Morrill parcels, we identified the amount originally paid by the United States to extinguish Indigenous title.

Based on Royce's schedule, we determined that 78 of the land areas were seized without a treaty or agreement, or via an unratified treaty or taking by congressional act or executive order. These actions specified no compensation for title. For the others, we relied on Robert Lee's "Federal Disbursements for Indian Title in the Louisiana Territory, 1804-2012" to identify original treaty/agreement payments. For payments not included there, we followed a similar methodology, conducting research in Indian Claims Commission decisions and GSA (forerunner to the GAO) accounting reports, the Court of Claims, U.S. Statutes at Large, and Charles J. Kappler's *Indian Affairs: Laws and Treaties* to compile known payments for Indigenous title.

Dividing total payments for Indigenous land cessions by their acreage yielded the amount per acre paid for each cession area. Multiplying the per-acre payment by the number of acres in a Morrill Act parcel estimated the amount paid by the United States to extinguish Indigenous title for each of the parcels in the dataset.

7) Determining and distributing principal raised for endowments

For the most part, identifying the amount of principal raised for the sale of the Morrill Act parcels was straightforward. Benjamin Andrews collected most of the figures for his statistical bulletin published by the Department of the Interior in 1918. Those figures noted the amount of principal that had been raised through 1914, as well as the amount of acres left undisposed at the time. To understand the returns on Ezra Cornell's scrip speculation, we relied on Paul Wallace Gates' *The Wisconsin Pine Lands of Cornell University* (1943) and Michael L. Whalen's *A Land Grant University* (2001).

Tabulating the value of the unsold acres in 1914 was more complicated. To do so, we consulted another bulletin by Walton C. John, another specialist in charge of land-grant college statistics at the Bureau of Education, written a few years later. Walton compiled data on the value of the unsold acres in 1918. From Walton's figures, we computed the per-acre value of unsold acres in 1918, converted those values into 1914 dollars, using inflation conversion factors, and used the result to calculate the value of the unsold acres in 1914. For New Mexico and Arizona, we used the minimum price of \$3 set by the states. Walton did not note the unsold value in 1918 of remaining acres for Illinois and Wisconsin (with less than 1% of their grants remaining), as well as Utah (with less than 10% of its grant remaining). For these three states, we used the 1914 principal per-acre amount to estimate the value of unsold acres at that time.

Using this method, we found that the principal raised in 1914 was \$17.7 million and the value of the unsold land at that time was \$5.1 million. Together, the grants value in 1914 was \$22.8

million Using inflation conversion factors, we estimate that, when measured from 1914 dollars, the inflation-adjusted value of the grants were approximately \$596 million in 2020 dollars. Measured from the years the universities were assigned the endowments, their inflation-adjusted value is approximately \$490 million in 2020.

Using the principal raised and value of the unsold land for each state's grant, we calculated the average contribution to endowment per acre, then multiplied that average by the number of acres in a parcel to estimate each parcel's average contribution to an endowment.

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