

Space Land Claim Recognition

Leveraging the inherent value of Lunar land for billions in private sector investment

by Douglas O. Jobs and Alan B. Wasser, The Space Settlement Institute
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International law bans governments from owning land on the Moon, but private entities could legally own such land. The possibility of acquiring a vast tract of undeveloped Lunar real estate would create a major incentive for the private sector to invest billions to independently finance and develop a regular space transportation system and permanent base on the Moon. Freeing the development of a Lunar transport system and base from dependence on government funding would not only provide significant taxpayer relief but would also help make the President's Moon-to-Mars proposal more sustainable.

To create a framework for the incentive, Congress should pass "land claim recognition" legislation legalizing private claims of land in space. A land claim recognition bill would not violate the ban on sovereign ownership if the "use and occupation" standard from civil law (rather than "gift of the sovereign" from common law) were used as the legal basis for the private claim.

Land claim recognition legislation would allow the U.S. government to "recognize" – acquiesce to, or decide not to contest – a private entity's claim to a large tract of Lunar land once the entity, using its own financial resources, successfully implemented a space transportation system and permanent Lunar base. The private entity, taking ownership of the land, could immediately sell or mortgage large portions of the claim to recoup their investment and generate a huge profit.

Note – A proposed draft version of space land claim recognition legislation is available for review at www.space settlement.org/law.

I. Legality of Space Land Claims Legislation

Establishing the legality of land claim recognition legislation involves three considerations:

- Current space treaties
- Legal framework
- International obligations

Current Space Treaties

Land claims in space are addressed by the 1967 Outer Space Treaty and the 1979 Moon Treaty. The Outer Space Treaty, to which the U.S. and most other space-faring nations are signatories, in Article II sets restrictions on national ownership of property in space:

Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.

Some argue that this provision also bans private ownership of land in space. Simply arranging Article II in bulleted list format shows the restriction was plainly meant only for nations, however:

Outer space, including the moon and other celestial bodies, is not subject to *national appropriation*

- by claim of sovereignty,
- by means of use or occupation, or
- by any other means

From the September 15, 1959 New York Times article "Pleas Are Expected to Mount For U.N. Control of Outer Space":

Secretary General Dag Hammarskjold, in the introduction to his annual report last year, urged "agreement on a basic rule that outer space and the celestial bodies therein are not considered *as capable of appropriation to any state.*"

The very existence of the 1979 Moon Treaty is evidence the 1967 Outer Space Treaty was never intended to legislate private land claims in space. The Moon Treaty does specifically attempt to ban private property in space. If the Outer Space Treaty, which was signed and ratified by many nations, had already banned private property in space, why the need for an entirely new treaty in 1979?

The U.S. never ratified the Moon Treaty. The treaty is generally regarded as a dead letter and is not binding on the U.S. or its citizens. That the U.S. refused to sign the Moon Treaty strongly indicates Congress never intended property rights to be placed in jeopardy by either treaty.

Legal Framework

The appropriate legal framework for land claims recognition in space is the "use and occupation" standard from civil law. Use and occupation means the claimants, by establishing a permanent presence on the land, have mixed their labor with the soil and created property rights that are independent of government.

In civil law countries like France, property rights have never been based on sovereignty as they have in the U.S. (which inherited the "common law" standard from the U.K.). Even in the U.S, derivatives of civil law are used by some states. From the New American Encyclopedia:

Common law was generally adopted in the U.S., although Louisiana state law is based upon the Code Napoleon, and other states have partially codified systems. Civil law often relies on precedent, just as many common law rules are codified by statute [as in civil law] for convenience.

Use and occupation must be the standard for any land claims regimen in space, because the common law standard cannot be applied on a Moon where sovereignty itself is barred by international treaty. Congress will have to decree that, because there can be no government on the Moon, a permanent base or settlement can give itself title just as though it were a government. Property deeds for land under its control will be recognized by U.S. courts of law, subject to specified limitations – just as titles issued by France, China, and even Iran are recognized by U.S. courts.

International Obligations

The Outer Space Treaty makes it clear that opening the space frontier must "benefit all mankind" and that open access to all areas of celestial bodies must be provided.

The exploration and use of outer space, including the moon and other celestial bodies, shall be carried out for the benefit and in the interest of all countries...and shall be the province of all mankind...and there shall be free access to all areas of celestial bodies.

Establishing a space line and permanent base open to all paying passengers regardless of nationality would certainly benefit all mankind, thus making it both necessary and sufficient to meet that very important condition of international law.

Participation by other space-faring nations would also help demonstrate these activities are in compliance with the "benefit of all mankind" requirement. Land claim recognition legislation could even direct the U.S. State Department to negotiate treaties requiring the private entities to form multinational consortia, to assure other nations that land claim recognition is not just an American attempt at a Lunar land grab.

II. Value of Lunar Land

Space land claim recognition would turn land on the Moon and other celestial bodies into a vast source of wealth. That real estate will acquire enormous value after there is a permanent base or settlement, regular commercial access, and a system of property rights.

Governments have often used offers of land to draw settlers to new and hostile regions. Traditional land grants cannot be used as an incentive because sovereignty on the Moon is prohibited, but land claim recognition would have the same effect. The objective of land claim recognition in space is the use of property rights as an incentive *to motivate private individuals to do something of great value for the whole society.*

Profitability of Land in a Claim

Lunar land will be offered for sale after months of worldwide press coverage produced by the race to be the first to settle the Moon. There will be land buyers with business purposes for buying and using the land, but there will be a much bigger speculative and investment market. Many people who will never leave Earth will buy Lunar land.

To help generate investment capital, should private entities be allowed to make a land claim after merely *committing* to build the space line and Moon base? No, because the dollar value of a Lunar land claim will only become high enough to be extremely profitable when people can actually go there, and speculators and investors know this. So Lunar land deeds recognized by the U.S. should be offered for sale only after the land is actually accessible – that is, when there is a transport system going back and forth often enough to support a permanent base. It will finally be understood to be land in the sky, not pie in the sky.

Value of Land on the Moon

How much is the real estate on the Moon worth? There are about 10 billion acres of land on the Moon. Assuming an average value of only \$20 per acre, the total value of the land on the Moon would be:

$$10,000,000,000 \text{ acres} \times \$20 \text{ per acre} = \$200,000,000,000 = \$200 \text{ billion}$$

Consultation with real estate professionals reveals that for deeds to Lunar property recognized by the U.S. government, \$100 per acre is a more realistic but very conservative minimum. At \$100 per acre, the value of land on the Moon becomes \$1,000,000,000,000 – a *trillion* dollars.

Can there be any doubt that such huge sums would not act as a strong incentive for the private sector to risk financing and developing a space transportation system and Moon base?

Hope's Experiment with Lunar Land Value

In 1980, Mr. Dennis Hope "claimed" the Moon and started a business selling Lunar land "deeds." Thanks to Mr. Hope, the average value of Lunar land, even on the most remote regions of the Moon's surface, is now known to be *at least* \$20 per acre – even with the land undeveloped and completely inaccessible.

Since Mr. Hope's claim is not recognized by any court, he is in effect selling the deeds as novelty items. As startling as it may be, Mr. Hope has sold over two million of these deeds since 1980, according to his website www.lunarembassy.com. The asking price for one acre of Lunar land, as of June 2004, is \$19.99. If two million buyers have been willing to purchase novelty deeds with no real or intrinsic value, consider the enormous demand among land investors, land speculators, and the general public if Lunar land deeds legally recognized by the U.S. government were offered for sale.

Dr. Jeffrey D. Fisher, a nationally recognized real estate expert, believes the sales of Mr. Hope's novelty deeds represents a fair comparable with the real Lunar deeds that may one day exist:

One way appraisers estimate value is the comparable sales approach. That Mr. Hope has been able to sell novelty deeds for Lunar land at this price [\$20 per acre] may be an indication of the actual novelty value per acre. If an entity were selling land sanctioned by the U.S. government, which would make the ownership rights more official, then I can see the value being even greater.

Dr. Fisher is the Director of the Center for Real Estate Studies at the Indiana University School of Business and Professor of Finance and Real Estate. Among his many publications relating to the science of property valuation, Dr. Fisher is co-author of "Real Estate Finance and Investments" (2005), "Income Property Valuation" (2003), and "Income Property Appraisal" (1994). With such a prominent real estate valuation expert acknowledging that a minimum value for Lunar land, based on novelty value, has reasonably been demonstrated – and further suggesting that government-sanctioned deeds would fetch an even higher price – there can be little doubt of the intrinsic value of Lunar land.

Amount of Land Recognized

How large a claim the U.S. should recognize would be up to Congress to decide. For example, the U.S. might decide to recognize a claim of no more than 4% of the Moon's surface – about 600,000 square miles, or about the size of Alaska. A claim this size would be worth \$12 billion given the modest estimate of \$20 per acre, while at \$100 per acre the value jumps to \$40 billion.

Competition between private entities could be encouraged by allowing the first to develop a space transport system and Lunar base the largest claim, with smaller claims for subsequent groups. The second group, if and when one were able to also develop a transport system and manned base, might be allowed to claim 15% less land than the first group, the third group could claim 15% less than that, and so forth.

Conditions for Claim Recognition

Besides developing a reliable, government-approved space transportation system and sustainable Moon base, additional conditions could also be stipulated for recognition of a claim. Representatives of the entity should be required to behave according to international norms, and the base itself should be open to all and prohibit anti-competitive behavior. Regulations might even be put in place for protection of historical sites or other areas of special importance.

Another possibility might be allowing only a limited percentage of land sales revenue to go towards repaying the cost of establishing the base, with the balance being reserved to support the base itself until ways can be found to earn enough for self-sufficiency.

III. Capability of Private Industry

The NASA Centennial Challenges program described in the NASA 2005 Appropriations Summary rewards private entities with annual prizes (up to a few tens of millions of dollars) for achieving "revolutionary, breakthrough accomplishments that advance solar system exploration and other NASA priorities..." NASA clearly believes that private industry can solve the complex problems associated with Lunar missions and objectives.

Like space land claim recognition, the NASA Centennial Challenges program requires up-front private innovation, investment, and actual implementation as a prerequisite for receiving the award.

By making awards based on actual achievement, instead of proposals, NASA will tap innovators in academia, industry, and the public that do not normally work on NASA issues.

Consider the intense interest from private industry if a *multi-billion* dollar reward were at stake. A space land claim recognition protocol would offer the biggest Centennial Challenge of all, for the biggest achievement of all – without costing the taxpayers a cent.

IV. Conclusion

The costs of returning to the Moon and eventually going on to Mars will be enormous. Some future Congress or Administration may decide to divert the funding to other programs or purposes. Land claim recognition legislation should be enacted by Congress now to help free Lunar return missions from the uncertainty of government financing. Taxpayer relief would be an additional benefit, by shifting much of the financial burden for these missions from NASA to private industry.

The timeline for the Moon-to-Mars initiative spans decades and many Administrations. Making private industry the primary financier by integrating competition, the profit motive, and free enterprise would create long-term stability and a sense of assurance that the initiative will ultimately succeed.

For more information:

Alan B. Wasser
Chairman, The Space Settlement Institute
(212) 864-7751 or (813) 949-6375
alan.wasser@space-settlement-institute.org
www.space-settlement-institute.org

Douglas O. Jobses
President, The Space Settlement Institute
(832) 326-3258
douglas.jobses@space-settlement-institute.org
www.space-settlement-institute.org