

# Common Property Resources

related to stuff in KW Chapter 18  
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Resources, as you know, are things that are combined with other things to produce the things that we want: inputs into the production of goods and services

Examples include capital, labor, land, minerals, forests, fish, animals, ecosystems, the atmosphere, natural areas, watersheds, oceans, etc.

Resources are scarce: there are not enough to produce everything everyone will ever want. This scarcity creates the economic problem.

**1 Most resources are *congestible* (*rivalous in the words of KW*); this means that if some of the resource is used for one purpose the same chunk cannot be used for another purpose: one use precludes another use.**

Examples:

- Labor used to produce widgets cannot be used to produce snerds
- A fish that goes in my mouth cannot go in yours
- If water is used to store pollutants it cannot also be a drinking source or a place to raise fish.
- The same gallon of gasoline cannot run both your and my car.

If a a gallon of gas was not congestible, we all could burn the same gallon of gas. Looking ahead, public goods are not congestible.

For the rest of this lecture, we will consider only congestible resources.<sup>1</sup>

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<sup>1</sup>CP resources and *public goods* are not the same thing. The next lecture is on public goods

**2 Consider congestible resources that have a zero price: everyone can take as much of the resource as is available without having to pay for the resource: it has a zero price. Such resources are called *common-property resources*, hereafter CP resources.**

The market (or lack of) puts a zero price on CP resources.

If a CP resource is not scarce - most are scarce - the market will efficiently allocate use of that CP resource. (In explanation, if the resource is not scarce, everyone should consume as much of it as they want, and at a zero price.)

However, if the CP resource is scarce - the market will fail to efficiently allocate its use.

CP resources are a major cause of market failure.

A resource is common property if access to it is not controlled. That is, it is common property if no one effectively owns the resource. If no one can control access to a resource then there is no "price" that must be paid to acquire the resource.<sup>2</sup>

While few resources in this world are pure common-property resources (access to them is completely uncontrolled), access to many environmental resources is largely uncontrolled, or controlled to only a limited extent.

Are the contents of your fridge a common property resource? What features would your fridge and its content have if the contents were CP? You probably wouldn't be able to keep beer in stock - you would not be able to sell it at a positive price (why would anyone pay if they can have it for free) - its stock size (the quantity of beer) would be driven down to inefficient levels, possibly to extinction.

A common-property fishery causes the market to fail, so will a common-property oil field, a common-property wilderness area, a commonly-owned air space, a common-property aquifer, a common-property rain forest, and a common-property road.

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<sup>2</sup>One has to be a bit careful with the adjective "common-property." it suggests, incorrectly, that the resource is commonly owned, as in, "Yellowstone National Park is commonly owned by the American people." A better adjective might be "uncontrolled" as in access to it is not controlled - there is no gatekeeper.

Note that there can be legal ownership without control.

The common-property nature of many animals is a significant contributor to their being endangered.

The common-property nature of the air in many places is a major reason for excessive air pollution from an efficiency perspective.

### **3 Consider commercial fishermen who fish the open seas**

They produce caught fish, which they sell.

Inputs into the production of caught fish include labor, capital, and fish swimming around in the open ocean.

The capital and labor is used to get the fish out of the water and onto the dock. Labor and capital are not common-property resources, so must be paid for.

If the fish stock is owned, the fisherman/harvester will have to pay the owner for each fish harvested, and the owner will charge an amount sufficient to cover the decreased value of the stock because it is reduced in size by the harvest. Put simply, the fisherman will have to pay the opportunity costs of all of the inputs it uses to produce docked fish, including what is lost when a fish are removed from the stock.

Alternatively, if the stock is common property with no owner to charge for harvesting from the stock, the commercial fisherman will not take into account the opportunity cost to society of reducing the stock because he or she will not have to pay this cost (the social cost of fishing will be greater than the private cost.) That is, when an input is free, people will overuse it – not surprising. Many of the ocean’s fisheries are or have been common-property resources.



3.1 For some, maybe me, driving country roads, drinking beer, and shooting cows is fun. But, unfortunately, I don't do it very often; there is a risk involved; it is a felony

I missed and shot a large pig.



Property rights for cows are well-defined and have a long history of enforcement; in the old west, cattle rustlers were hanged, it was a capital offense, probably still is in Texas.

Why I don't shoot very many cows.

The police would stop me, I would confess (I get nervous and confess, even at Customs), and straight to jail I would go: a place with big guys who might find me cute, or, at least, a new face.

So, if I want to shoot cows, I need to make prior arrangements with the rancher: knock on the door, offer him a couple grand for each cow I want to shoot, and pay in advance (unless we have already set up a PayPal account). Ranchers will be happy to oblige if your willingness-to-pay-to-shoot is high enough. While my willingness-to-pay-to-shoot is positive, it is not high enough to entice the rancher, so I don't harvest many cows.

**3.1.1 But, what if all the ranchers lost control of their cows (“cows gone wild” - the movie) and there was no sheriff to chase and hang the criminals.**

I would get to shoot cows for free; I would still have to buy gas, beer and bullets, but would not have to pay the opportunity cost associated with the loss to society because the world has one less cow. Cows would be over harvested from society’s perspective, a market failure.

Buffaloes used to be common-property resources and there were millions of them. What happened to them all? Dudes like Buffalo Bill could buy a box of bullets and a train ticket from St. Louis to Denver; then shoot, through the train window, a few hundred buffalos—a way to pass the time on the train. How do you think he got his nickname? There was a loss to society but not to Bill, Bill was maximizing his utility



## **4 Why are some resources common property but many others not?**

In the beginning, God created the heavens and the earth

And “In the beginning” there was no need to control access to resources because resources were not scarce

### **4.1 Most resources are now scarce but when man first arrived on the scene, scarcity was not a big issue – big garden with only two residents and a talkative snake.**

All resources started off as common property but now access is controlled for many of them.

Why? There is a large profit incentive to find a way to control access to a scarce resource. (Implementing a way to control access leads to a much more efficient use of the resource.)



However, even now, after years of private-property capitalism, there remains resources that are both terribly scarce and effectively common property.

This happens, in part, because the characteristics of some natural resources make them expensive for either a private agent or the government to define and enforce property rights.

Think about why cows are not common property, but many ocean fish are? Cows were bred to minimize the cost of controlling them: stupid, can't jump over fences, easy to spot, cheap to brand, kids stand next to mom, and willing to wait in line to be slaughtered – how convenient.

Wild fish, on the other hand, are very difficult to keep track off. Maybe we need to breed domestic fish who don't like to run around. Wait a minute–We are, we do!<sup>3</sup>

There are cultural and historical reasons that some resources remain common property. People who exploit common-property resources get very upset when someone suggests they should pay to use the resource. “My father fished here, my grandfather fished here, my great-grandfather . . . It is my god-given right.”

<sup>3</sup>More than half of the fish currently consumed are domestic fish (raised on farms).

I have had guys with guns say that to me while they were standing in the middle of my driveway.

Selling stuff like clean air to the highest bidder makes many people queasy, not economists, but maybe economists are a different species. That is some people get queasy with the idea of buying and selling certain scarce resources.



## **5 John Wayne, then barbed wire, reduced the cost of enforcing property rights in the old west.**

You've seen the movie. The widowed farmer and his beautiful daughter, Thelma, struggle to grow corn on their Kansas homestead, their crops unfenced. The local ranchers, a selfish, profit-maximizing bunch, drive their cattle to Kansas City right through the corn fields (shortest route), destroying the crop and dooming the farmer to poverty.

An old dad with a rusty gun is not enough to get the ranchers to lengthen their journey and take a detour around the ranch. Dad can't enforce his property rights.

In the spring, John Wayne appears; he falls for the daughter; takes sympathy on the father, and with his gun, muscles, and swagger scares off the cowboys and cattle.

The farmer pays for this in terms of grandchildren that look like John Wayne. But over the years, Thelma's love for John wanes, but what can she do, if she dumps him, back will come the cattle drive and the kids will starve.



## **5.1 Then barb wire is invented, greatly decreasing the cost of controlling access to the farm.**

Thelma dumps John, after he put up the fence, she runs the farm, and grandpa lives out his golden years watching his corn and grandchildren grow. Barb wire changed the west (very very true). Barb wire made land use more efficient because it decreases the cost of protecting property rights.

Can you think of other inventions (technological advances) that significantly decreased the cost of enforcing property rights? Branding? What sorts of technologies does the U.S. use to control access to the U.S.? Have there been major advances in those technologies?