



**DESCHUTES  
BREWERY**  
ESTD BEND OREGON 1988

**Sustainability Never Tasted So Good**

Craig Horrell





# Where We Live











## Portland Pub Opened 2008

The Portland pub has used PGE's 100% renewable energy since the day it opened. It also features a collection of large salvaged timber beams used to build the bar, tables and other parts of the building.



## Bend Pub Opened 1988 Newly Expanded 2012

Both the Bend and Portland pubs participate in recycling and composting programs and purchase locally farmed beef raised on Deschutes' spent grain.





# Deschutes Brewery's Brewing Facility 2011

Fermentation Expansion  
June 2012

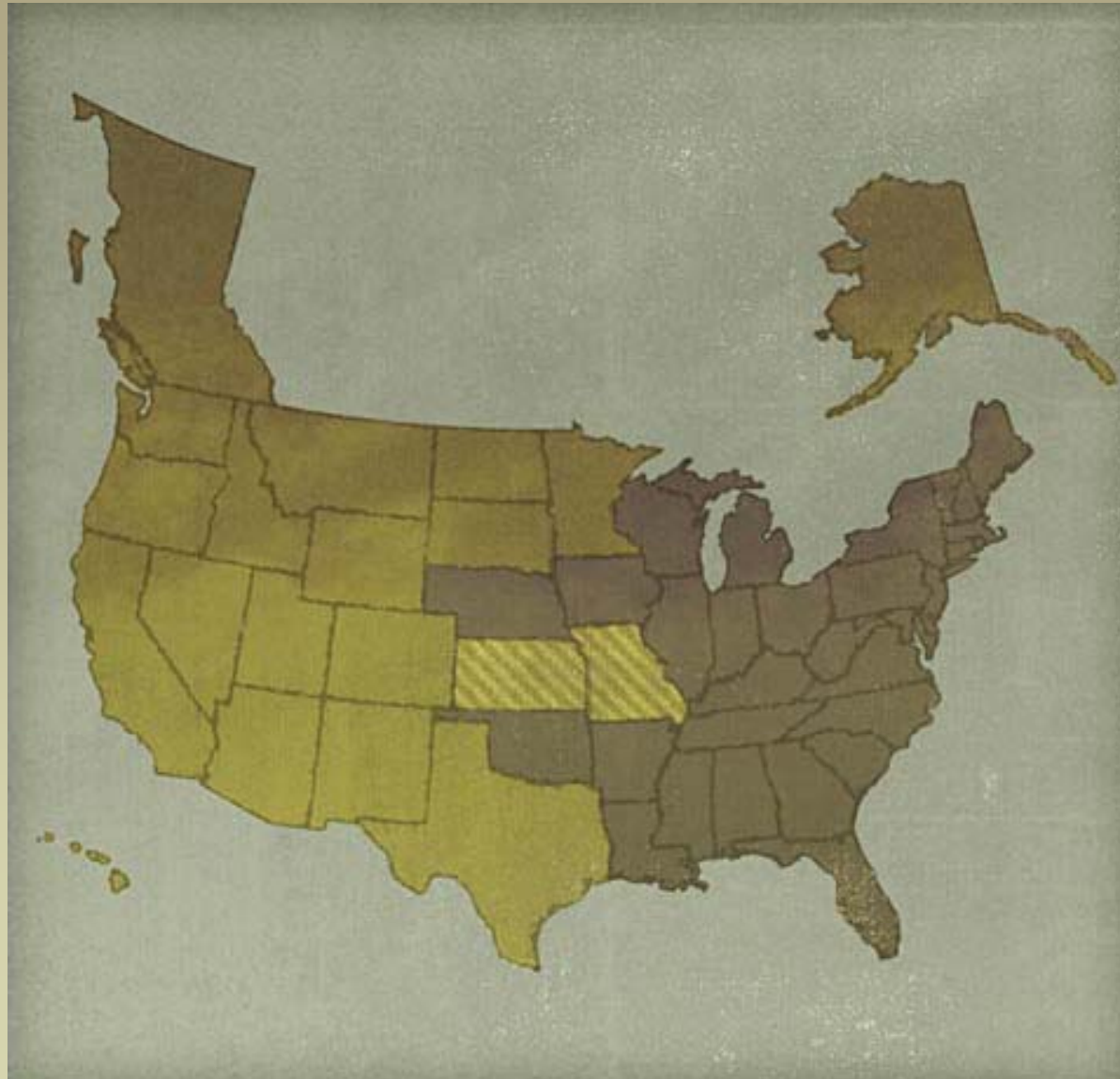


Bend, Oregon





## 2012 DESCHUTES BREWERY SALES BY STATE





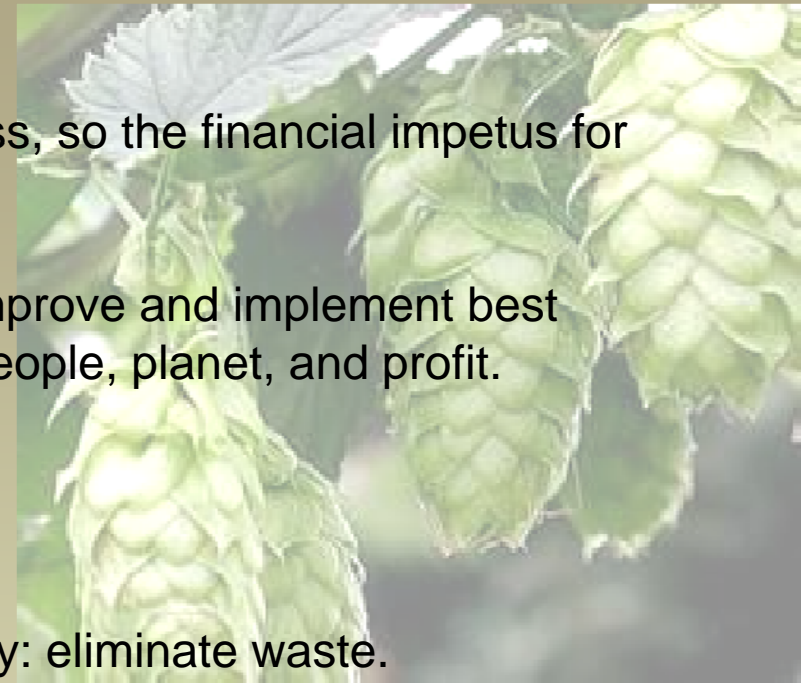


# Sustainability

- Brewing is by nature a very energy intensive process, so the financial impetus for implementing sustainable measures is large.
- Deschutes Brewery is always looking for ways to improve and implement best practices within the triple bottom line paradigm of people, planet, and profit.

## How

- Educating our employees.
- By implementing Lean manufacturing philosophy: eliminate waste.
- Recycling, using byproducts effectively, running efficiently.
- Continuously working to reduce our carbon footprint.







## Water Use

- Water is the largest resource used in making beer and we are always trying to minimize our water used per BBL brewed.
- Currently it takes 4.1 gallons of water to make 1 gallon of beer. The industry average is 5 gallons. We are continually striving to get this number down.
- We are currently working with the Deschutes River Conservancy to support in stream leasing of water rights.







- Deschutes Brewery has pledged to contribute 1 billion gallons of water to the Deschutes River annually on a multi-year basis (5 years +) with a large donation to the Deschutes River Conservancy to support instream leasing of water rights through the DRC's leasing program
- DRC's Instream Leasing Program pays farmers and other surface water users to lease instream, legally protecting that water in the middle Deschutes River.
- Benefitting: fish, wildlife, aquatic life, water quality, people, recreation, fishing, tourism, water right holders, landowners, irrigation districts, our local economy, and more!
- 1 billion gallons of water is 14 x what Deschutes Brewery water use is in total: including bottling facility, brewery pubs, supply chain, hops growers, grain growers, etc





## 1 billion gallons is VERY significant for our Deschutes River

- 3,069 acre-feet (picture an amount of water 1 foot deep covering 2,785 football fields or filling 1,668 Olympic size swimming pools!)
- 563 acres leased (average Deschutes farm takes 5.45 acre-feet/acre)
- Close to 7% of restoration on the middle Deschutes River
- Over 10% of the total in stream leasing program







# Plant Waste Stream

- 60% +/- of the incoming water is packaged in product. The other 40% is in the waste stream, steam or evaporation.
- We Have four waste streams at our plant.
  - High strength
  - Low Strength
  - Spent grain
  - Sanitary
- Our permit with the City of Bend allows us to discharge 3,600 ppd of COD at a pH range of 6.0 to 10.0 from 11:30pm to 10:00am.

So how do we do this with the volume of beer we produce?





# High Strength Waste

- We separate very high organic load materials into a different drain system than our low strength and sanitary wastewater.
- This is trucked off by a local company:
- Agricycle spreads 375,000 gallons a month as a soil amendment on local fields.
- This fertilizer is very effective because of nutrients, it is a byproduct, so it takes no extra energy to make and it is cheaper for local farmers.







## Low Strength Waste

- Our low strength and wastewater is separated and sent to the WTF?! (Waste Treatment Facility). It is then treated for pH and stored for discharge to the City.
- We store and treat for pH 80,000 to 110,000 gallons a day.
- We release to the City between the hours of 11:30 pm and 10:00 am. This allows us to release at 200 gpm with a 3,600 PPD COD maximum.







## Spent Grain

- Spent grain is trucked off and sold as cow feed all over Oregon.
- Any spent hops used in the hot side of the brewing process are combined with this spent grain from the brewhouse.
- Keeps anyone from having to process it, generates revenue for the Brewery, and is a healthy food for the cows.
- Pub spent grain goes to Borlen Cattle Company. They are very local. They feed their cows with it, and then we buy the beef back from them and serve it in the pub burgers.







## Spent Yeast

- High strength waste would still be a good fertilizer, and we would avoid having too much volume to get rid of locally.
- Right now it goes to high strength waste.
- This year or next we want to separate it out, as well, and sell it as cattle feed.
- Very good vitamins and nutrients for animals.





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## Spent Hops/Malt Dust



- Buckets of malt dust from our malt room air filters, spent hops used for dry hopping, and waste hops and malt from our hop and malt gathering rooms are collected at the back of our building.
- A local organic farmer, Jim Fields, picks these up and uses them as a soil amendment or composts them.
- We pay him for the service, so he gets free fertilizer and we support another local business.





# Questions?