# River Equity

## U.S. Waterway Grid

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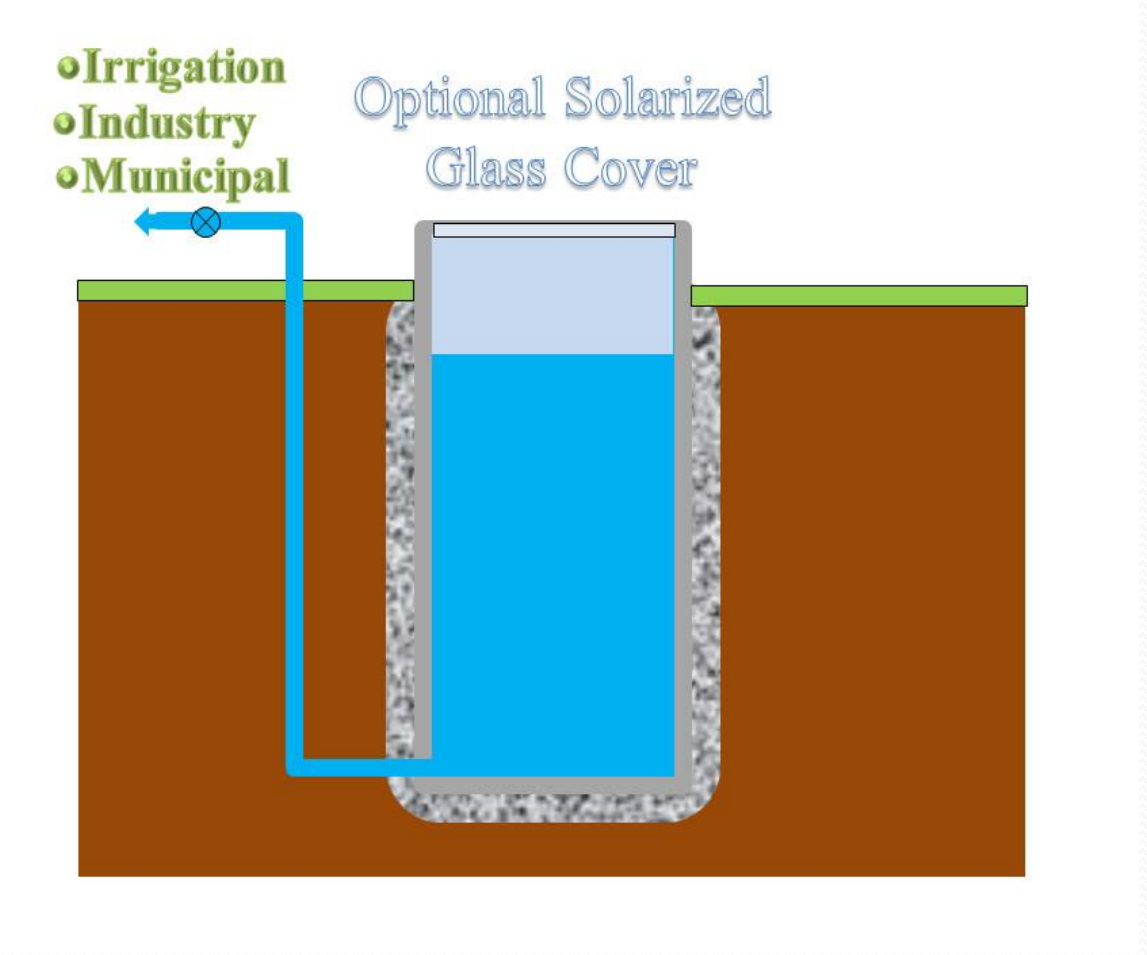
*"Preserving the Balance of Nature"*

2017

# River Equity *Grid Waterway Tech*

- Glass-Covered
- Evaporation-Free
- Concrete-Lined
- Deep Profile
- Bottom Draw
- Solar Pump
- *Municipal Water*
- *Industrial Water*
- *Irrigation Water*



# River Equity *River Under Glass*

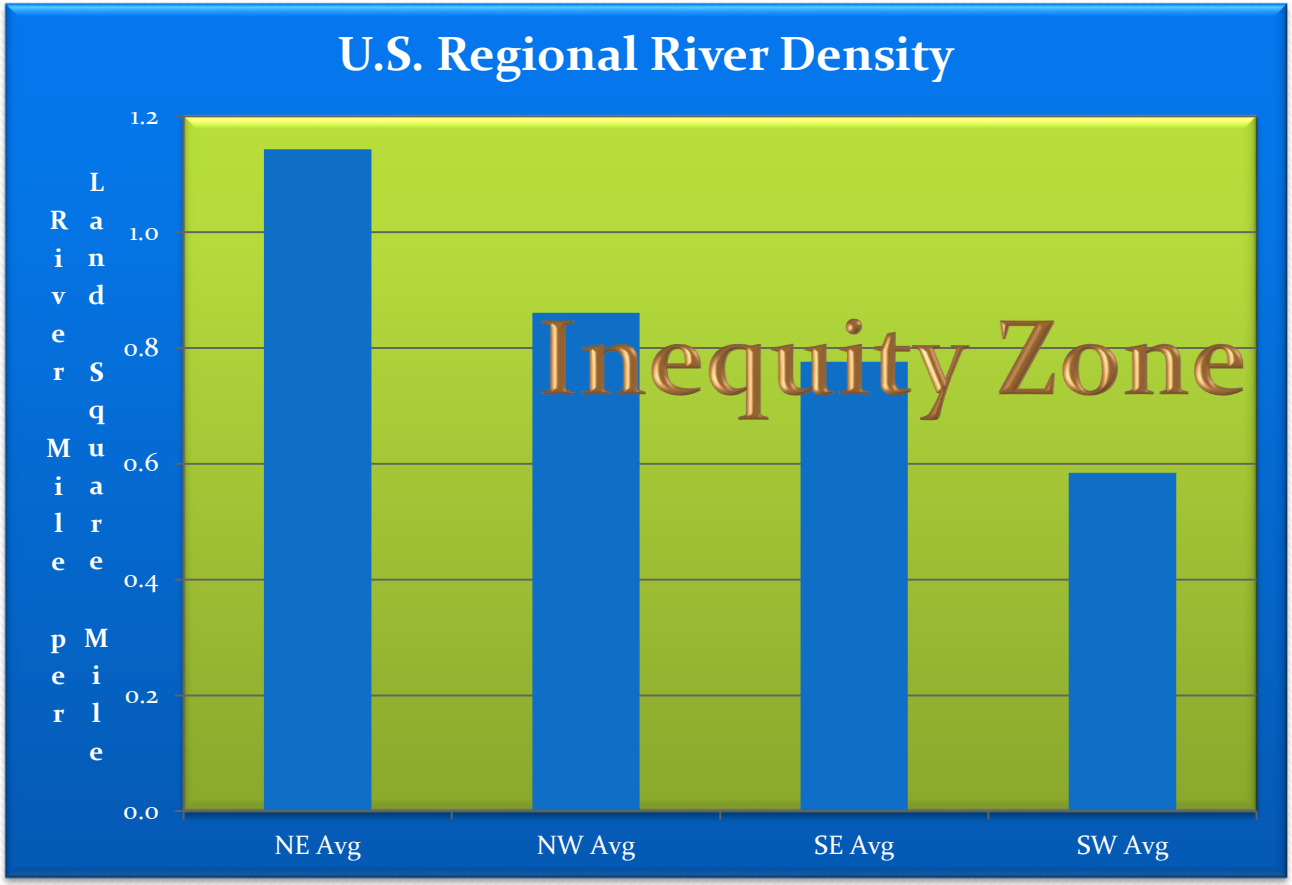
- Sealing the Deep & Narrow Grid River Surface with Glass or Plastic Stops Evaporation and Excludes Atmospheric Contamination (e.g., Acid Rain)
- A Flat or Arched Glass Mosaic Can Be Overlaid Characteristically Narrow Grid River Passages Like a Greenhouse Roof
- Arched Glass Can be Designed to Focus Sunlight (Magnifier) Promoting Distillation Under Glass and Produce Pure & Free Adjacent Water Run-Off in Hot Regions
- Use of a Glass Seal is Indicated in Through Desert and Air-Pollution Regions to Preserve River Water Flow & Purity
- In Clean-Rain or Cool Regions, Grid Rivers Flow Unsealed to Receive Their Pure & Natural Precipitation Endowment

# Precursor Hydro-Technology

- San Juaquin Valley Irrigation
- Curvaceous Beauty & Flowing Function

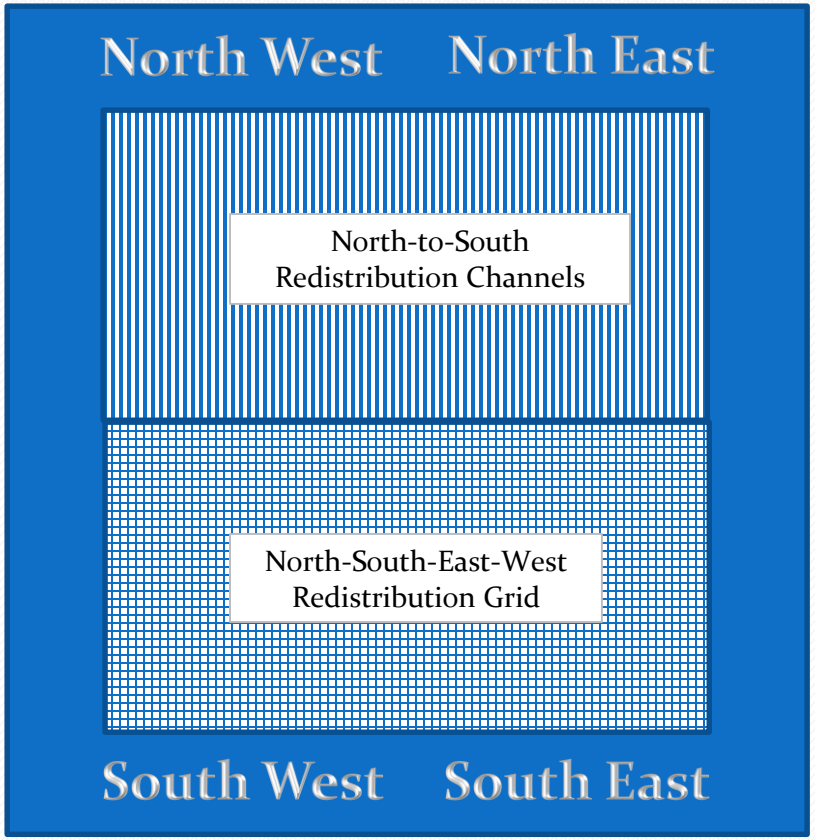
# U.S. Water Inequity

- River Miles per Land Square Miles
- North-to-South Bias & East-to-West Bias



# River Equity *Redistribution Grid*

- Good “News” (North-East-West-South) National Hydro Grid
- Avg U.S. N-to-S & Center-to-Shore Down-Slope = 1 Ft / Mile
- **Artificial River Grid** Equalizes Flow Water Within U.S.

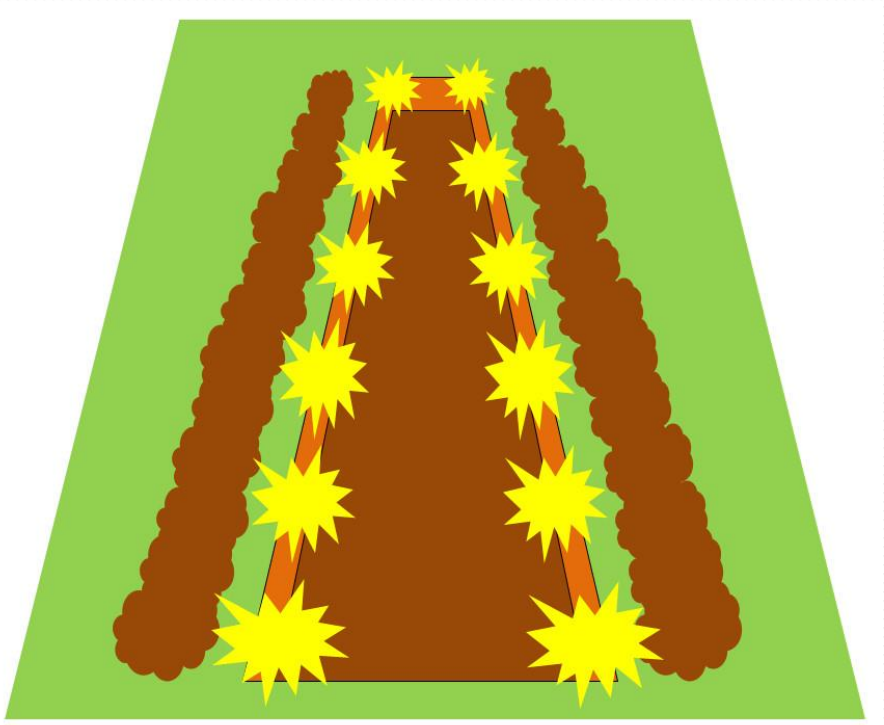


# Water Equity *Economics*

- Example: 20'W x 20'D Grid Rivers to **Equalize River Density** (Length Mile/Area Mile) Throughout Nation
- N-to-S Grid Rivers = 215 @ 750 Length Miles
- E-to-W Grid Rivers = 55 @ 1,500 Length Miles
- Grid River Spacing Equals U.S. Intercity Spacing of 15 Miles
- Cost Estimate: $244 Billion @ $1 Million/Mile
- U.S. Spends $66 Billion/Yr for Highway Infrastructure
- Highways Are Reaching Limits to Growth; Funds Could Be Diverted to Artificial Waterway Grid
- Were 25% of Highway Funds Redirected to Artificial Rivers, National River Grid Could be Built in 15 Years

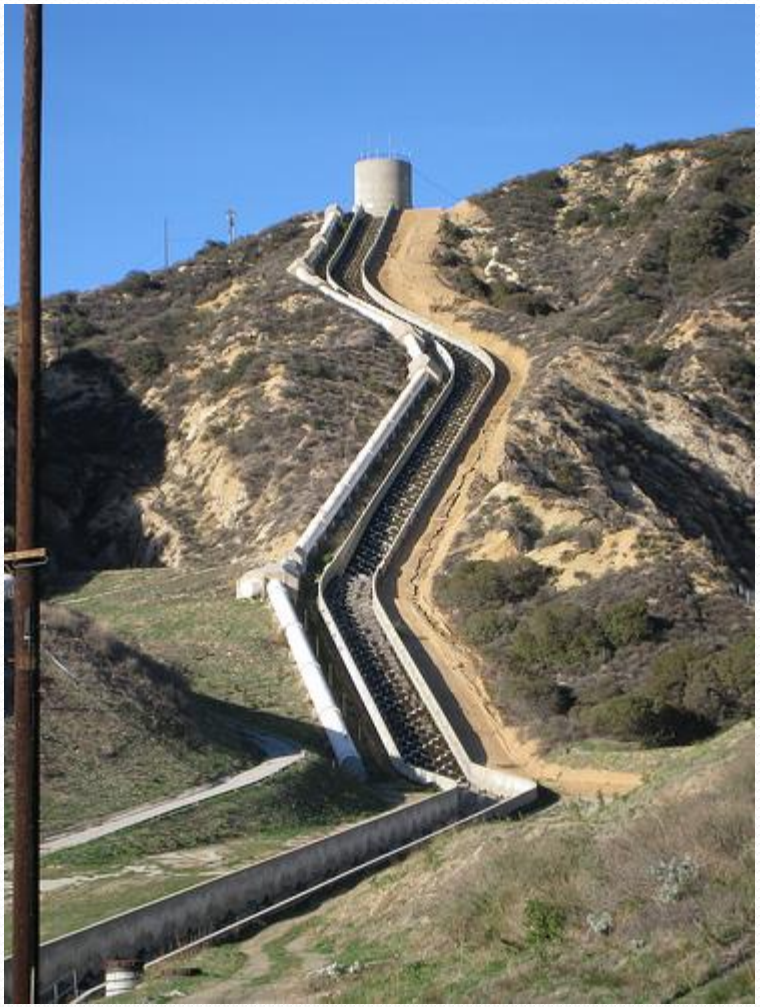
# Precision Explosive Excavation

- Expert Placement of Explosive Charges to Dig Precise River Trench + Pile Dirt in About One Second



# Concrete-Lined River Channel

- Lining Artificial River Dirt Trench with Concrete Allows Waterway to Course ANYWHERE
- River Pathway is Untied From Water Table & Natural Topography
  - Overhead
  - Underground
  - Up-Down-Through Mountains & Hills
- Concrete-Lined River Channel Functions Like Traditional Aqueduct (example at right from Los Angeles)
- Deep Channel Profile Keeps Artificial River Water Near Earth Subsurface Temperature of 55°F



# River Grid *Time & Cost*

- Artificial River Construction Methods & Cost Should be Similar to Concrete Highway Construction
- Average Cost of One Lane Mile = $1,000,000
- U.S. Builds About 1,000 Roadway Miles Annually
- U.S. Spends About $66B Annually on Highways

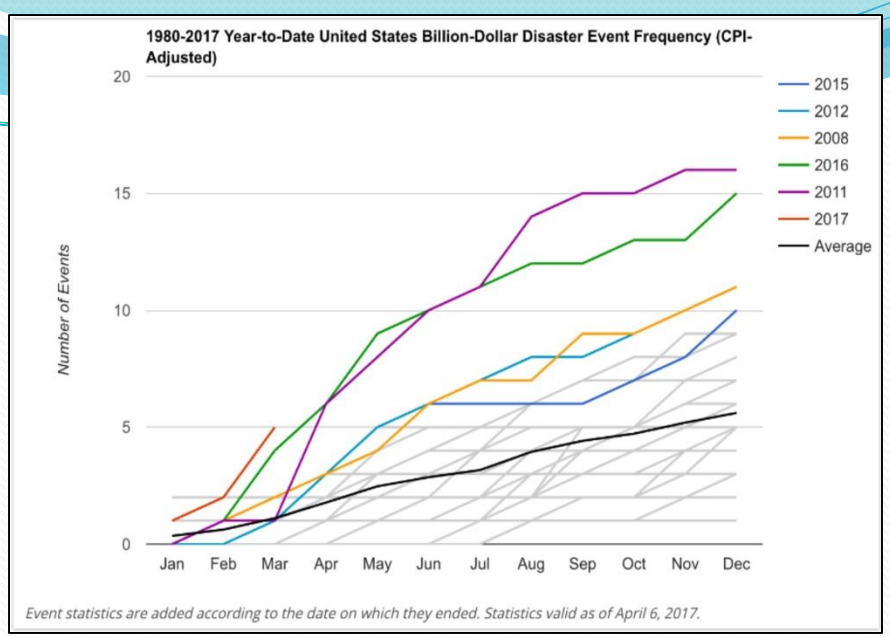
# Global Warming: *Desertification*

- Over the 21st Century U.S. Summer Extreme Temperatures are Expected to Rise About 10 Degrees Fahrenheit
- Evaporation Doubles for Every 10 Fahrenheit Degree Increase
- Temperature Rise Amounts to "Moving" Cities of U.S. Southward About 1,000 Miles, with Attendant Reduction in River Density and Increasing Desertification
- National River Grid Could *Moderate* General Loss of River Density and Advancing Desertification
- Global Warming will Cause U.S. Sun Belt Zone to Double in Size, Doubling **Solar Power** Capacity of U.S. Energy Grid
- River Grid Initiative Invests Enlarging Sun Belt Region with **Water for Life** (Reverse Crop Loss, Improve Green Balance, Raise Habitability)

# Global Warming: *Inundation*

- Global Temperature Rise Melts Polar Ice Caps and Mountain Glaciers
- Attendant Sea Rise Brings Destructive Inundation to Coastal Cities, Redefines Coastal Geography, and Increases Evaporative Hydro Area of Planet
- Global Warming Hydro Dynamics Selectively Brings Increasing Rainfall, Storms, and Flooding
- National River Grid Could Help Manage Hydro Extremes More Effectively via Enlarged Redistribution Capacity (Hydro Buffer to Wet-Dry Extremism)

# Global Warming: *Storm Cost*




- Global Warming Increases Incidence of Storm Damage
- Billion-Dollar Storms Occur at Rate of 5/Year Since 1980
- In Recent Years, Billion-Dollar Storms Occur at Rate of 10-15/Year (Triple Incidence)
- Intelligent National River Grid Policy Will Moderate Billion-Dollar Storm Damage
- Every Billion-Dollar Storm *Prevented* Theoretically *Subsidizes* River Grid Infrastructure Development by $1 Billion

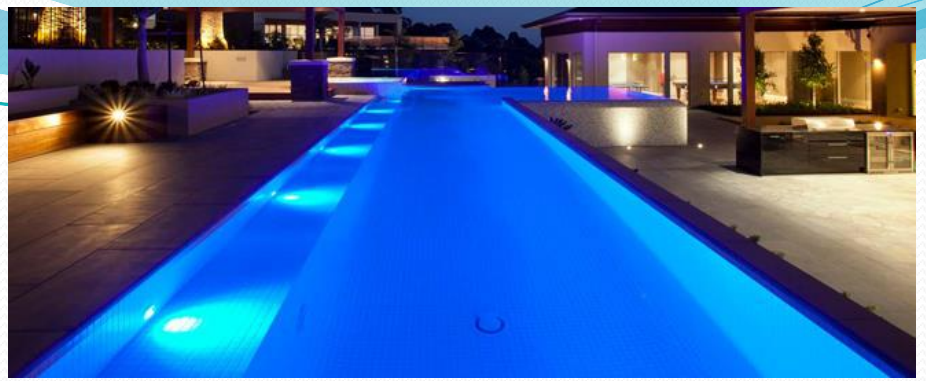
# U.S. River System: *Siltification*

- Extensive, Sustained, Mechanized U.S. Agriculture Has Transferred the Nation's Top Soil Endowment to the National River System
- Siltified Rivers Are More Shallow and Flood Prone
- Automated Dredging of River Channels to Deepen and Recycle Top Soil Can Reverse Siltification and Moderate Flood Severity.
- Natural River Restoration will Take Decades to Replace the Nation's Agricultural Top Soil and Reform the River System
- The Artificial River Grid Can Be Shielded from Top Soil Transfer, Thereby Resist Siltification & Shallow River Flooding

# *Siltification* Economics

- Estimate 650 Billion Tons of Lost Agricultural Topsoil is Distributed Throughout the Natural U.S. River System
- Value of Natural River System Silt @ $18/Ton (Average Price of Topsoil) = $12 Trillion
- Recovered Silt Has an Aggregate Economic Value **50X** the Capital Cost of the Entire River Equity Grid River System
- In Other Words, Dredging (Fixing) Less Than 5% of the Natural River System via Private Enterprise that Markets Much-Needed, "Lost" Top Soil to Farmers **Pays for the Entire Grid River System**

# Grid River *Beautification*



- Man-Made Grid Rivers Can Make An Aesthetic Contribution to America's Landscape
- **Contouring:** Grid Rivers Can Be Straight, Gracefully Curved, Pumped Uphill, Metered Downhill
- **Illumination:** Grid Rivers Can Be Statically or Dynamically Illuminated by LEDs of Any Color
- **Landscaping:** Grid Rivers Can Be Appointed with Adjacent Irrigated Trees and Other Foliage to Further Balance Nature and Beautify
- **Riverscaping:** Grid Rivers Can Be Adorned with Underwater & Surface Foliage to Beautify and Oxygenate

# Grid Rivers: *Fortification*

- Grid Rivers are Largely Driven by Our National Rainfall Endowment of Pure Water
- Possible to Design Grid Rivers Free of Toxins That Were Deposited During the Industrial Era into Natural Rivers
- Grid Rivers Can Be Turbulated for Oxygenation
- Grid Rivers Can Be Fortified with Plant Life and Fish Food
- Grid Rivers Can Be Stocked and Maintained for a Free, Perpetual, Healthy, Food Fish Supply.
- Grid Rivers Can Fortify the American Diet Now Lacking in Seafood Content
- Grid River Fruitfulness Can Eliminate Hunger in the U.S.A.

# Grid Rivers: *Recreation*

- Grid River Architecture Can Be Adjusted for Wider Width or Faster Current to Meet Recreation Needs of Adjacent Populations
- Grid Rivers Can Be Costlessly Illuminated via Solarization for Recreation
- Grid River Recreation Zones Can Support Swimming, Fishing, Boating, Water Skiing, Rapids Rafting, Snorkeling, Scuba Diving, Etc.
- *It is **Unlikely** that Grid Rivers Will Replace or Supplement Natural Rivers for Transportation*

# Grid Rivers:
# *Immigration Labor Opportunity*

- U.S. and Other Christian Nations Are Becoming Overwhelmed by Desperate Immigration
- Grid River Construction Affords A Good Work Opportunity and Expertise Development for Immigrant Populations
- River Equity Is A Critical Issue in Tropical and Sub-Tropical Zones
- Latin Americans Immigrating to U.S.A. Can Engage in Life-Preserving Grid River Construction
  - Latinos Handle Tropic Heat Better Than North Americans
  - Watershed Prosperity Can Support Latino Family Influx

# Grid Rivers: *Environmentalism*

- Natural Rivers in the U.S.A. are Among the Most Beautiful in the World, Truly a Blessing From God
- Less than Ideal Stewardship has Allowed Our Gracious River Endowment to Deteriorate: Pollution, Siltification, Aquatic Life Loss, Seasonality, Etc.
- Grid Rivers Afford a "Second Chance" at River Environmentalism: Start Fresh and Keep Fresh & Beautiful a *Second Tier* of River Assets While the Natural River System is Recovering.