Humboldt Bay Harbor, Recreation & Conservation District
Commission and Officers

- Division 1: Aaron Newman: Term 2011-2015
- Division 2: Greg Dale: Term 2011-2015
- Division 3: Mike Wilson, President: Term 09-13
- Division 4: Richard Marks, VP: Term 2009-13
- Division 5: Patrick Higgins: Sec. Term 2011-15
- Paul Brisso- Legal Counsel
- Mark Wetzel- Treasurer
Oregon State University
Fish Biologist
Fish Processor
Port of Tillamook Bay
Port of Astoria
35 years Port Industry
**Humboldt Bay**

- Located on the rugged Northern California coast about 225 miles north of San Francisco and 156 nautical miles south of Coos Bay, Oregon, the Port of Humboldt Bay is on course toward a strong future.
- Approximately 18,000 Acres in size.

**Shipping Channels**

- Main Entrance Channel 48’ of Depth
- North Bay Channel 38’ of Depth
- Eureka Channel 26’ of Depth
- Fields Landing Channel 26’ of Depth
Strategic Goals

- Redwood Marine Terminal & Business Park
- Aquaculture Expansion
- Water Trails
- Marine Highway
- Woodley Island Marina
- Inner Reach Dredge Spoils Management
- Sea Level Rise
- North Coast Fisheries Co-Management
- Humboldt Bay Recreation Leadership
We are adding assets to our inventory to better aid the community in:

New Port Authority Boat for Research, Rescue and Maintenance

Side Scan Sonar for Research and Recovery

New Fireboat for Fire and Rescue
Humboldt Bay Harbor, Recreation & Conservation District’s Fire Boat

November 1st, 2012
First Call @ 0348hrs
Humboldt Bay Harbor, Recreation & Conservation District’s Port Authority Boat

- Bay Studies (HSU, NOAA, Fish & Wildlife etc.)
- Platform for Side Scan Sonar
- Vessel has been called out for six rescue/assists
- Marina Dock Maintenance & Marine Debris Recovery

![Escorting Cruise Ship](image1)

![Assisting Fire Boat during Fire](image2)
Humboldt Bay Harbor, Recreation & Conservation District’s Side Scan Sonar

- Survey
- Marine Studies
- Security
- Recovery

Bait Ball
Installation completed
October 18th, 2012
Many Thanks to Commissioner Greg Dale and His Crew aboard the “ELUSIVE”

Had a communication problem with buoy #2- Fixed

Connection Problem at Chevron & #5, SonTek shipping units back Friday

Re-install units Tuesday, back on-line shortly after
Woodley Island Marina

- Employees: 13
- 237 Slips
- Pilotage
- Conservation Specialist
- Port Authority Fireboat
- Port Authority Security Boat
- Fork Lift
- 2 Ton Heavy Lift Hoist
- 1 Ton Hoist
- Storage
## Fy 2013/14 revenues/expenses by function

<table>
<thead>
<tr>
<th></th>
<th>WIM</th>
<th>FLBY</th>
<th>Prop/TL</th>
<th>Harbor</th>
<th>Cons/Rec</th>
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<td><strong>TOTAL OPERATING EXPENSES</strong></td>
<td><strong>$830,842</strong></td>
<td><strong>$151,058</strong></td>
<td><strong>$460,306</strong></td>
<td><strong>$261,210</strong></td>
<td><strong>$900,481</strong></td>
<td><strong>$324,492</strong></td>
<td><strong>$2,928,389</strong></td>
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<table>
<thead>
<tr>
<th></th>
<th>WIM</th>
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<th>Cons/Rec</th>
<th>Admin</th>
<th>Total</th>
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<td>$5,000</td>
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<tr>
<td>Operating Expenses</td>
<td>$830,842</td>
<td>$151,058</td>
<td>$460,306</td>
<td>$261,210</td>
<td>$900,481</td>
<td>$324,492</td>
<td>$2,928,389</td>
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<tr>
<td><strong>TOTAL EXPENSES</strong></td>
<td><strong>$986,708</strong></td>
<td><strong>$196,558</strong></td>
<td><strong>$3,036,306</strong></td>
<td><strong>$510,513</strong></td>
<td><strong>$905,481</strong></td>
<td><strong>$324,492</strong></td>
<td><strong>$5,960,058</strong></td>
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## 2013/14 Proposed Revenue/Expenses by Function

<table>
<thead>
<tr>
<th>Function</th>
<th>Income</th>
<th>Expenses</th>
<th>Net</th>
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<td>WOODLEY ISLAND MARINA</td>
<td>$1,151,672</td>
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<td>FIELDS LANDING BOAT YARD</td>
<td>$159,300</td>
<td>$196,558</td>
<td>($37,258)</td>
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<td>PROPERTY/TIDELAND LEASES</td>
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<td>HARBOR</td>
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<td>CONSERVATION/RECREATION</td>
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<td><strong>NET EXPENSES OVER REVENUE</strong></td>
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<td><strong>$406,408</strong></td>
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# Woodley Island Marina Revenues and Expenses 2000/01 - 2011/12

<table>
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<tr>
<th>FY</th>
<th>Revenue</th>
<th>Expenses</th>
<th>Net Loss</th>
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<td>-$261,405</td>
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<td>2002/03</td>
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<td>-$348,649</td>
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<td>$937,082</td>
<td>-$349,282</td>
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<td>2004/05</td>
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<td>-$307,043</td>
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<tr>
<td>2005/06</td>
<td>$637,955</td>
<td>$894,389</td>
<td>-$256,434</td>
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<tr>
<td>2006/07</td>
<td>$649,578</td>
<td>$884,173</td>
<td>-$234,595</td>
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<td>2007/08</td>
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<td>2008/09</td>
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<td>2009/10</td>
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<td>$746,512</td>
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<td>2011/12</td>
<td>$755,857</td>
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Information taken from District audits - less depreciation, dredge surcharge; including estimated dredge costs
5/21/2013
Woodley Island Marina

- Electrical meters installed - re-bill tenants
- Water meters installed - Reduced sewer costs
- Marina accounting software - max. capacity
- Reduction in costs - security, staff time
- New revenue sources - RV Park, Fuel Dock
- Plan to replace floats - <20 yrs life remain
- Create more business opportunities - Retail
Electrical meters being installed now = New Revenue
New Marina Software
New Gates = Lower Security Cost
Wireless System = New Revenue
New Lights and Cameras
Woodley Island RV Park

- Estimated costs $1.2-1.5 million
- Estimated net Revenues $300,000+
- Net Revenues dedicated for float replacement
- **Zero impact to Commercial Fishermen**
- Redwood Dock improvements needed for additional commercial capacity
Proposed New Fuel Dock

- Install fuel Dock at Woodley Island
- Estimated sales 100,000 gallons/year
- Estimated net revenues $50,000
- Cost $150,000
- Revenue dedicated to float replacement
Fields Landing Boat Yard
Fields Landing Boat Yard Improvements

• Zero Discharge Boat Wash
• Power Washing by Harbor District Staff - New Revenues
• Installation of New Lower Dock
• Building Lease for Marine Fabrication and Repair Shop = New Revenues
SHIPPING and COMMERCE

LOG EXPORT

FUEL BARGE

CRUISE SHIPS

NAVY

WOOD CHIP EXPORT
Cargo Tonnage: 300,000 – 1,200,000 MT/YR

Export: logs and wood chips

Import: gas/diesel; logs; wood chips
<table>
<thead>
<tr>
<th>CALENDAR YEAR</th>
<th>IMPROVEMENT SURCHARGE COLLECTED</th>
<th>HARBOR DEEPENING DEBT SERVICE</th>
<th>% OF DEBT SERVICE COLLECTED</th>
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# Pilotage Revenue and Costs 1982-2012

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</tr>
<tr>
<td>2007</td>
<td>383,662</td>
<td>16</td>
<td>$172,353</td>
<td>$366,520</td>
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<tr>
<td>2008</td>
<td>439,559</td>
<td>15</td>
<td>$162,624</td>
<td>$369,115</td>
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<tr>
<td>2009</td>
<td>316,480</td>
<td>3</td>
<td>$6,050</td>
<td>$187,200</td>
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<tr>
<td>2010</td>
<td>339,985</td>
<td>1</td>
<td>$6,424</td>
<td>$188,496</td>
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<tr>
<td>2011</td>
<td>542,177</td>
<td>10</td>
<td>$68,894</td>
<td>$189,701</td>
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<tr>
<td>2012</td>
<td>451,078</td>
<td>7</td>
<td>$59,665</td>
<td>$190,942</td>
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<tr>
<td><strong>Totals</strong></td>
<td><strong>21,863,006</strong></td>
<td><strong>568</strong></td>
<td><strong>4,191,070</strong></td>
<td><strong>1,583,161</strong></td>
</tr>
</tbody>
</table>

**Average**
- 705,258 / 18 = $135,196
- $226,166

Since 10/06, the average annual pilotage revenue: $71,867

Harbor District hired as employees two Bar Pilots on 10/06: $1,583,161

Pilotage revenue received by the Harbor District: $503,070

**Cost to Harbor District 2006-2012** ($1,080,091)
Shipping Cost Since 2001

Harbor Deepening Loan: $2,965,000

Harbor Improvement Surcharge (2001-2012)
• Revenue: $973,569
• Expenses (debt service): $2,603,021

Pilotage (Oct 2006 – 2012)
• Revenue: $503,070
• Expenses (pilot costs): $1,583,161

Marketing (Aug 2007 – Apr 2011)
• Revenue: $0.00
• Expenses (Dir. of Maritime Commerce): $405,000

2001-2012: The Harbor District has paid out $3.1 million more than revenue realized.
<table>
<thead>
<tr>
<th>Rank</th>
<th>Port</th>
<th>Tonnage</th>
<th>Change From:</th>
<th>Market Share:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Last Year</td>
<td>This Year</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ten Years Ago</td>
<td>Ten Years Ago</td>
</tr>
<tr>
<td>1</td>
<td>Los Angeles</td>
<td>170,904,406</td>
<td>8.0%</td>
<td>47.1%</td>
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<tr>
<td>2</td>
<td>Long Beach</td>
<td>148,609,793</td>
<td>-3.0%</td>
<td>40.9%</td>
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<tr>
<td>3</td>
<td>Oakland</td>
<td>32,287,606</td>
<td>1.9%</td>
<td>8.9%</td>
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<tr>
<td>4</td>
<td>San Diego</td>
<td>2,920,338</td>
<td>0.5%</td>
<td>0.8%</td>
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<tr>
<td>5</td>
<td>Stockton</td>
<td>2,652,153</td>
<td>31.7%</td>
<td>0.7%</td>
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<tr>
<td>6</td>
<td>Redwood City</td>
<td>1,609,237</td>
<td>84.6%</td>
<td>0.4%</td>
</tr>
<tr>
<td>7</td>
<td>Hueneme</td>
<td>1,317,717</td>
<td>7.6%</td>
<td>0.4%</td>
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<tr>
<td>8</td>
<td>San Francisco</td>
<td>1,088,272</td>
<td>42.5%</td>
<td>0.3%</td>
</tr>
<tr>
<td>9</td>
<td>West Sacramento</td>
<td>805,636</td>
<td>49.7%</td>
<td>0.2%</td>
</tr>
<tr>
<td>10</td>
<td>Humboldt</td>
<td>491,863</td>
<td>59.5%</td>
<td>0.1%</td>
</tr>
<tr>
<td>11</td>
<td>Richmond</td>
<td>235,127</td>
<td>14.0%</td>
<td>0.1%</td>
</tr>
</tbody>
</table>

Total Tonnage: 362,922,048

Region:
- Southern California: 323,752,254
  - 2.6% 17.1% 89.2% 89.7% 90.6%
- Northern California: 39,169,794
  - 7.6% 36.0% 10.8% 10.3% 9.4%

Size:
- Large (LB, LA, Oak.): 351,801,805
  - 2.5% 19.1% 96.9% 97.5% 96.8%
- Small (Others): 11,120,243
  - 26.1% 12.4% 3.1% 2.5% 3.2%
20 Years Ago

Sierra Pacific Industries

North Coast Chip Export

Louisiana Pacific Pulp Mill

Simpson Pulp Mill

Pacific Affiliates
Stand-alone Multipurpose Berth
Minimum Requirements

- Solid Multipurpose Cargo Dock
- 38’ Feet of Water alongside Pier to Channel
- 100 Acres upland Property for Cargo Staging
- Two Access Points Preferred
- Trained Labor Force/Crane Operators
Redwood Terminal Berth 1
- 2 Approach Ramps
- 1,064 ft. in Length
- 20 Acres

Freshwater Tissue

Redwood Terminal Berth 2
- 1 Approach Ramps
- 1,300 ft. in Length
- 0 Acres

• 156 Upland Acres
How competitive are we?

- Inefficient access-40% Higher labor cost
- Shortage of experienced Longshoremen
- Wood product cost higher-short harvest season
- Draft limits-can’t fully load vessels-2\textsuperscript{nd} Port call
- Ship size limited due to Tug horse power
- Lack of Public Docking facility-Open access
- Road access limited and no Rail system
Redwood Berth 1 acquired September 2004 from Louisiana Pacific Co.

- Limited Upland Acreage
- 40 Acres owned by Samoa Pacific Group LLC
- Off site impacts
- Poor road access
REDWOOD MARINE TERMINAL
BERTH 1

Demolition of Building 14

Commercial Fisherman Support Center
• Gear Handling and Storage
• Cold Storage
• Fuel
• Dock Hoist

Dock Repair & Improvements

Building 14

Building 14

Redwood Berth 1

Dock Repair & Improvements
-2007 Marina Dredging: $11.54 per Cubic Yard

-168,000 Cubic Yards Woodley Island Marina
  Cost $1,602,720

-86,000 Cubic Yards City of Eureka Marina
  Cost $1,046,909 (includes additional piping charge)

-Mobilization Fee $609,500

-Total Cost $3,259,129
Cutter Head Suction Dredge

Astoria, Oregon
Clamshell Dredging/Scows
Disposal at HOODS
2012 Survey Results

- Average of 2.5 ft. (30 inches) of Material in Marina above Project Depth
- Marina has approximately 57,661 cu. yards of build-up at this time in survey area
- Last Dredge Cycle removed approximately 168,000 cu. yards to Project Depth
- Almost 6 Years since last Dredge Cycle equaling almost 6 inches of build-up per year
- 6 inches equals approximately 10,000 cubic yards in survey area
- In 4 years the Marina will lose approximately 2 feet of depth causing some boats to possibly be aground at low tide.
Dredge Equipment Disposal Options, Operations Cost Review

- Cutter Head Suction- Flow Lane- $2/cuyd
- Hooper Dredge-Ocean Disposal- $4/cuyd
- Clam Shell/dump barge-Ocean- $7/cuyd
- Cutter Head Suction-Beach/WI- $11/cuyd
- Cutter Head Suction-Beach/City- $15/cuyd
- Clam Shell/upland dewater-reuse- $16/cuyd
- Clam Shell/upland landfill- $30-$50/cuyd
Dredging Solution

- Purchase Cutter Head Dredge and Flow Lane
- Estimated cost $2 million
- Annual dredge volume 50,000 yards
- Available for public and private docks
- Clean material main channel-Corp removal
- Contaminated material Upland disposal
- Equipment available for dock maintenance
The Potential for Beneficial Reuse of our Dredged Material

• Fill (Construction)
• Habitat Restoration & Sea Level Rise Adaptation
  – Beach Placement
  – Raise subsided former tidelands
  – Rebuild Levees – ‘Eco-Levees’
  – Sustain Marshes
King Salmon Dunes built with Recycled Dredge Materials
CONSERVATION
Protecting the Resources of Humboldt Bay

- Permitting
- MLPA
- Fisheries
- Sea Level Rise
- Eel Grass
- Sediment
- Pollutants
- Invasive Species
Marine Protected Areas

• District helped organize local input on size and location

• Proposals to monitor conditions in and out of the MPAs are being developed
Aquaculture Pre-Permitting

- Leading multi-agency effort to pre-permit new aquaculture areas.
- Local food production, local jobs
- Ensuring sensitive resources are protected.
- Adds 55 New Jobs

Potential Tenants

- Coast Seafood's Co.
- Taylor Shellfish
- Humboldt Bay Oyster Co.
- Hog Island Oyster Co.
- Aqua Rodeo Farms
Coastal Flood Risk

• Thousands of acres around the bay are protected by century-old earth dikes and Railroad.

• Sea level rise increases the flooding risk for these lands.
Coastal Flooding and Sea Level Rise

Harbor District, Arcata, Eureka, and County staff are developing a Bay-wide Plan that will:

– Identify the resources at risk
– Present options for addressing this challenge
Spartina Eradication
RECREATION

SHELTER COVE

WATER TRAILS

KING SALMON

HALIBUT

ARTIFICIAL REEF FOR ROCKFISH

SPORT FISHING
Artificial Reef-HASA

- Land Board Lease
- Harbor District continue to provide permit support
- HASA hires consultant
Water Trails

• Working on designs and permitting for improved kayak access to the bay

At Arcata Marsh

At Woodley Island
Shelter Cove Fish Cleaning Station

• Covered to protect pelicans from fish waste
• Fish Carcass Processed for Crab Bait-2013
• Table Wash Water into Sewer-2014
• Discharge Pipe Removal-2014
Added Drop Pipe to protect pelicans from fish waste
Samoa Industrial Waterfront Transportation Access Plan

- Funded $250,000 Transportation Grant
- Connecting for Federal Highway Designation
Proposal to purchase Freshwater Pulp Mill

Freshwater Pulp (Evergreen Pulp) Mill before shutdown in 2010

- Operated 45 Years
- 235 Jobs
- 200,000 Tons of Cargo yearly
- 1st West Coast chlorine free
- $1 Billion replacement cost

Present

Demolition and Clean up Started in 2011
Multi-Purpose Public Dock

- Deep Water Access- Natural Scouring
- Open Access to all Shippers
- General Cargo-heavy load capacity dock
- Access to 100 Acres of Upland Property
- Access to Warehouse Storage Facility
- Connected to Federal Highway System
- Industrial Zoned with low off-site impacts
BERTH 2 - Provides Best Opportunity
Opportunity Purchase

- All parcels 156 acres
- All Buildings 250,000 sq. ft.
- 30 million gal/day water treatment system
- 1.5 miles of ocean outfall pipe
- All necessary road easements
- Accept all above ground hazardous waste
Potential Uses of Property and Buildings

• Wood Chip and Hog Fuel Export
• Log and Lumber Export
• General Cargo- Domestic Barge
• Bio-Char-Pellet Mill Facility for Export
• Indoor Aquaculture and Research
• Wave Energy Buoy Manufacture
• Offshore Wind Turbine Manufacture
30 Million Gallon/Day Water Clarification System
MILL WATER
STORAGE
12-023
1,968,300 GAL.
SEA WATER STORAGE
12-113
100,050 GAL.
Potential Uses of Water Clarifier

- Fresh Water Aquaculture and Research
- Water Export, International and Domestic
- Water Cooling Industries- Data Centers
- Agriculture Industries-Maraschino cherry
- Food Industries-Bottled water-beer
- Industrial Manufacturing- Dry wall
- Energy Production- Pressure Retarded Osmosis
Potential Uses of Ocean Outfall

- Aquaculture Discharge & Intake
- Power Plant Hot Water Discharge
- Wave Energy Power Conduit
- Fiber Optic Cable Landing Conduit
- Domestic Grey water Discharge
Pulp Mill is ready for Redevelopment

Freshwater Pulp Mill during pulp production

Freshwater Pulp Mill after clean up
- Public shipping dock
- Longshore services
- Break Bulk storage warehouses
- Bulk transfer from ships
AQUACULTURE

- Fish raceways for finfish production
- Aquaculture/mariculture hatchery
- Aquaponics greenhouse
- Shellfish rafts for oyster cultivation
- Filter for water treatment
- Fresh water from the water district
- Water clarifiers to remove minerals
ENERGY

- Fabrication for energy systems
- Renewable energy research labs
- PRO (Pressure Retarded Osmosis) Energy
- Biomass storage (logs, chips, pellets)
- 20 MW biomass boiler
- Wind and wave energy assembly area
- 60 kV transmission lines
MARINE RESEARCH
MARINE RESEARCH

- Classrooms
- Visitor Center
- Labs
- Research vessels
- Marine research facilities
Humboldt Aquaculture Innovation Center

Aquaponics pilot facility funded by The Headwaters Fund grant and HBHCRD

- Pre-permitted aquaculture “business park”
- Aquaponics pilot facility: The Headwaters Fund and HBHCRD

- Zero waste aquaculture
- Organic by design (no pesticides/herbicides)
- Freshwater re-circulating system: Vegetables & Fish
- 2,100 sq.ft. greenhouse donated by Sun Valley Farms
- Open for tours and workshops, summer 2013

www.aquaponicsinternational.com
BST-Restoring Rail Service

• Develop preliminary cost estimates to reconstruct existing North Coast Rail corridor.
• Develop preliminary cost estimates to build new east-west alignment to Red Bluff.
• Estimate Cargo volumes needed to generate sufficient revenues to cover construction, operation and maintenance costs per road.
• Financial Feasibility Analysis
Final Project Due Mid June

Diagram #1: Lentell - Route - Blue Lake to Redding (Rail route #1)
199 miles with Mileage beginning at Eureka.
Maximum Gradient: 1.5%
Maximum Speed: 40 MPH

Alternative route around landslide area near Blue Lake adds 8.8 miles to total route length.

Diagram #2 - Lentell - Route - Alton to Redding - Railroute #2
217.6 miles with mileage beginning in Samo
Maximum Gradient: 3.0%
Maximum Speed: 40 MPH

Diagram #3 - Eel Canyon Railroute #3
Samo to Gerber - 243 miles
Maximum Gradient: 3.1%
Maximum Speed: 40 MPH
Thank you

Questions?