

# **Jack Crider**

CEO of the Humboldt Bay Harbor, Recreation  
& Conservation District



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# 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

## REDWOOD MARINE TERMINAL



# P O R T



BOAT YARD

## WOODLEY ISLAND MARINA



# O Y S T E R S





# ***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*





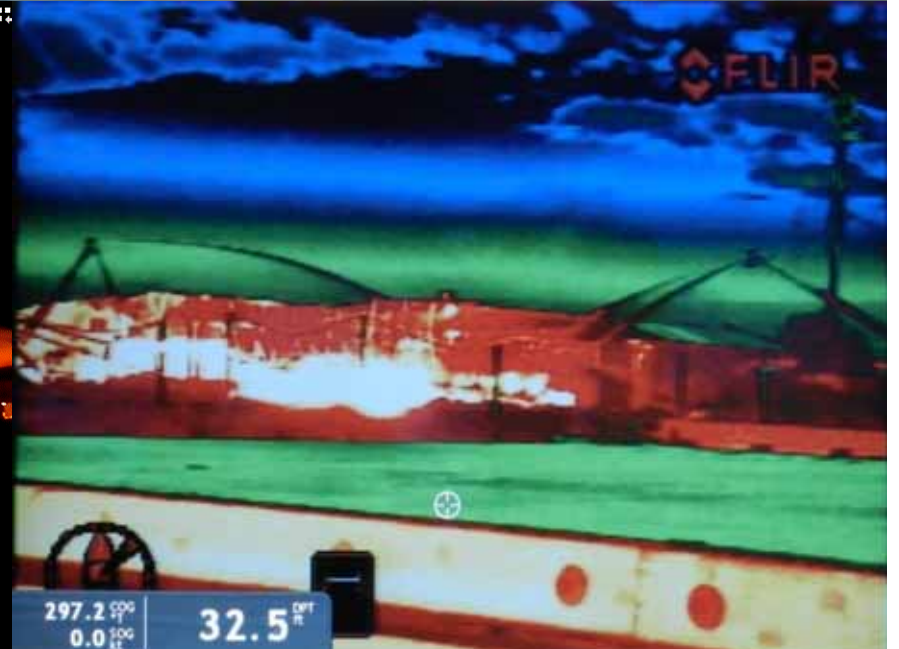
# Humboldt Bay Harbor, Recreation & Conservation District's Fire Boat



DSCN8895



November 1<sup>st</sup>, 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

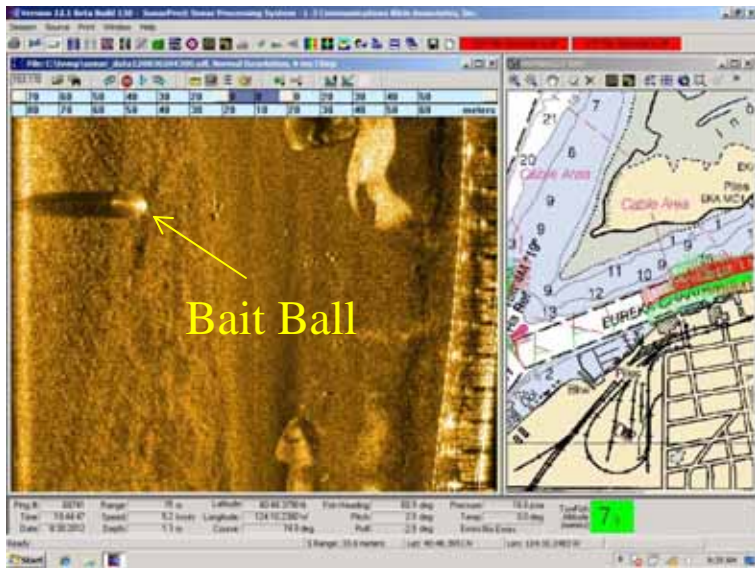
Escorting Cruise Ship



Assisting Fire Boat during Fire

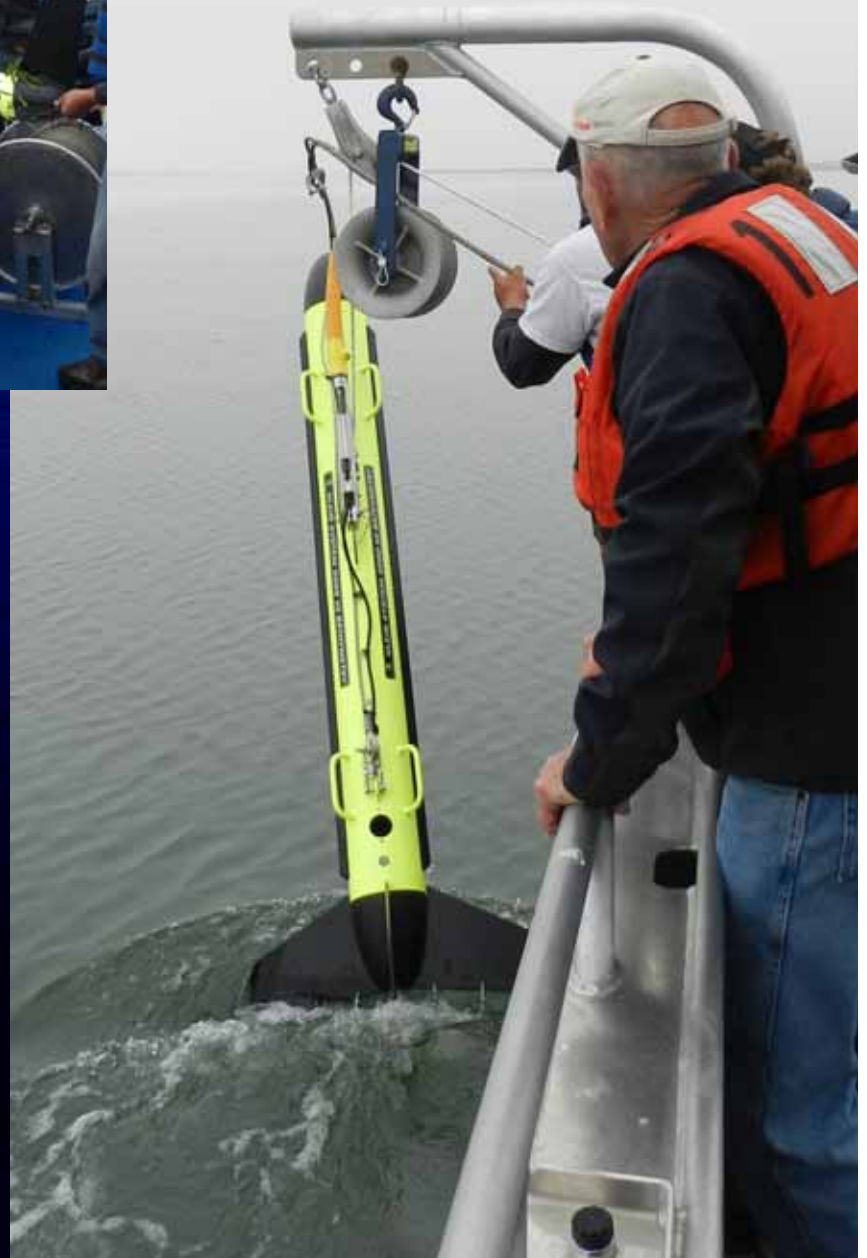






## Humboldt Bay Harbor, Recreation & Conservation District's Side Scan Sonar

- Survey
- Marine Studies
- Security
- Recovery

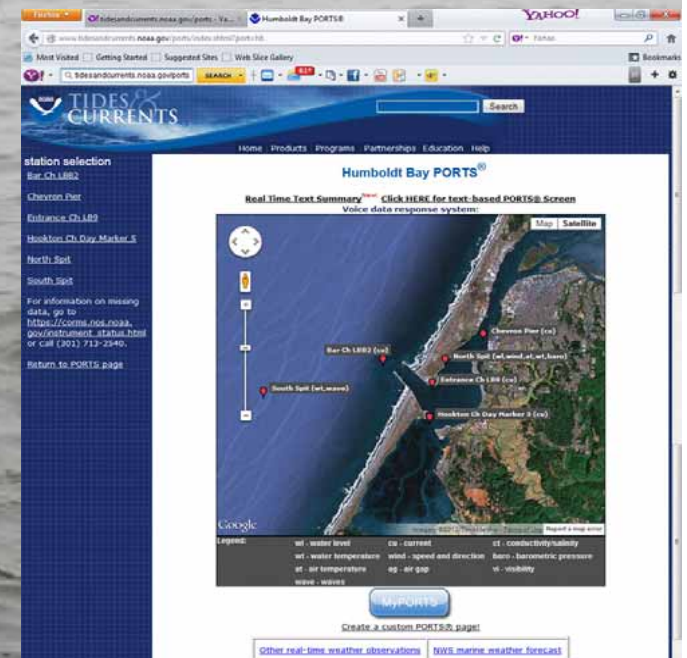






*Installation  
completed  
October 18<sup>th</sup>, 2012*

**P**hysical  
**O**ceanographic  
**R**eal  
**T**ime  
**S**ystem





# P O R T S

- 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

An aerial photograph of Woodley Island Marina. The marina is a long, narrow body of water filled with numerous sailboats and yachts moored at docks. To the left of the marina is a large, dark, wooded area. To the right is a developed area with buildings, parking lots, and a road. The water is a deep blue, and the sky is clear.

- 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

	WIM	FLBY	Prop/TL	Harbor	Cons/Rec	Admin	Total
Salaries/Wages	\$332,299	\$67,947	\$44,832	\$124,160	\$89,832	\$90,849	\$749,919
Commish Fees	\$0	\$0	\$0	\$0	\$0	\$25,200	\$25,200
Temp Personnel	\$3,000	\$0	\$0	\$0	\$0	\$0	\$3,000
Auto Value	\$140	\$0	\$0	\$0	\$0	\$560	\$700
P/R Burden	\$161,872	\$33,111	\$22,074	\$62,550	\$44,149	\$44,149	\$367,905
Advert/Promo	\$3,500	\$0	\$0	\$3,500	\$0	\$0	\$7,000
Automotive	\$7,000	\$0	\$0	\$20,000	\$0	\$0	\$27,000
Communications	\$8,540	\$0	\$0	\$0	\$0	\$5,460	\$14,000
Conf/Mtgs	\$3,000	\$0	\$0	\$18,000	\$0	\$3,000	\$24,000
Dues/Subs	\$5,000	\$0	\$0	\$18,000	\$0	\$6,000	\$29,000
Election/Govt Fees	\$13,500	\$0	\$0	\$0	\$0	\$31,500	\$45,000
Insurance	\$12,091	\$10,000	\$56,000	\$0	\$0	\$6,274	\$84,365
Office Expense	\$16,000	\$0	\$0	\$0	\$0	\$25,000	\$41,000
Operating Supplies	\$5,500	\$0	\$0	\$0	\$0	\$1,500	\$7,000
Security Guards	\$40,000	\$0	\$0	\$0	\$0	\$0	\$40,000
Legal	\$10,000	\$5,000	\$30,000	\$0	\$0	\$5,000	\$50,000
Acct/Auditing	\$6,000	\$0	\$0	\$0	\$0	\$25,000	\$31,000
Prof Services	\$0	\$0	\$0	\$15,000	\$0	\$45,000	\$60,000
Utilities	\$105,000	\$0	\$20,000	\$0	\$0	\$0	\$125,000
Maintenance	\$60,000	\$0	\$20,000	\$0	\$0	\$0	\$80,000
FL,SC,KS,RMT	\$0	\$35,000	\$22,000	\$0	\$27,000	\$0	\$84,000
Samoa Shops	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Freshwater Tissue Property	\$0	\$0	\$215,400	\$0	\$0	\$0	\$215,400
HBMP	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Interest/Fee Expense	\$0	\$0	\$0	\$0	\$0	\$10,000	\$10,000
Grant Expense	\$0	\$0	\$0	\$0	\$739,500	\$0	\$739,500
Capital Exp. Loan Payment	\$38,400	\$0	\$0	\$0	\$0	\$0	\$38,400
Equity Line Loan	\$0	\$0	\$30,000	\$0	\$0	\$0	\$30,000
<b>TOTAL OPERATING EXPENSES</b>	<b>\$830,842</b>	<b>\$151,058</b>	<b>\$460,306</b>	<b>\$261,210</b>	<b>\$900,481</b>	<b>\$324,492</b>	<b>\$2,928,389</b>
	<b>WIM</b>	<b>FLBY</b>	<b>Prop/TL</b>	<b>Harbor</b>	<b>Cons/Rec</b>	<b>Admin</b>	<b>Total</b>
Capital Expenses	\$56,500	\$45,500	\$2,576,000	\$35,000	\$5,000		
Debt Payments	\$99,366			\$214,303			
Total Capital/Debt Pmts	\$155,866	\$45,500	\$2,576,000	\$249,303	\$5,000	\$0	\$3,031,669
Operating Expenses	\$830,842	\$151,058	\$460,306	\$261,210	\$900,481	\$324,492	
<b>TOTAL EXPENSES</b>	<b>\$986,708</b>	<b>\$196,558</b>	<b>\$3,036,306</b>	<b>\$510,513</b>	<b>\$905,481</b>	<b>\$324,492</b>	<b>\$5,960,058</b>

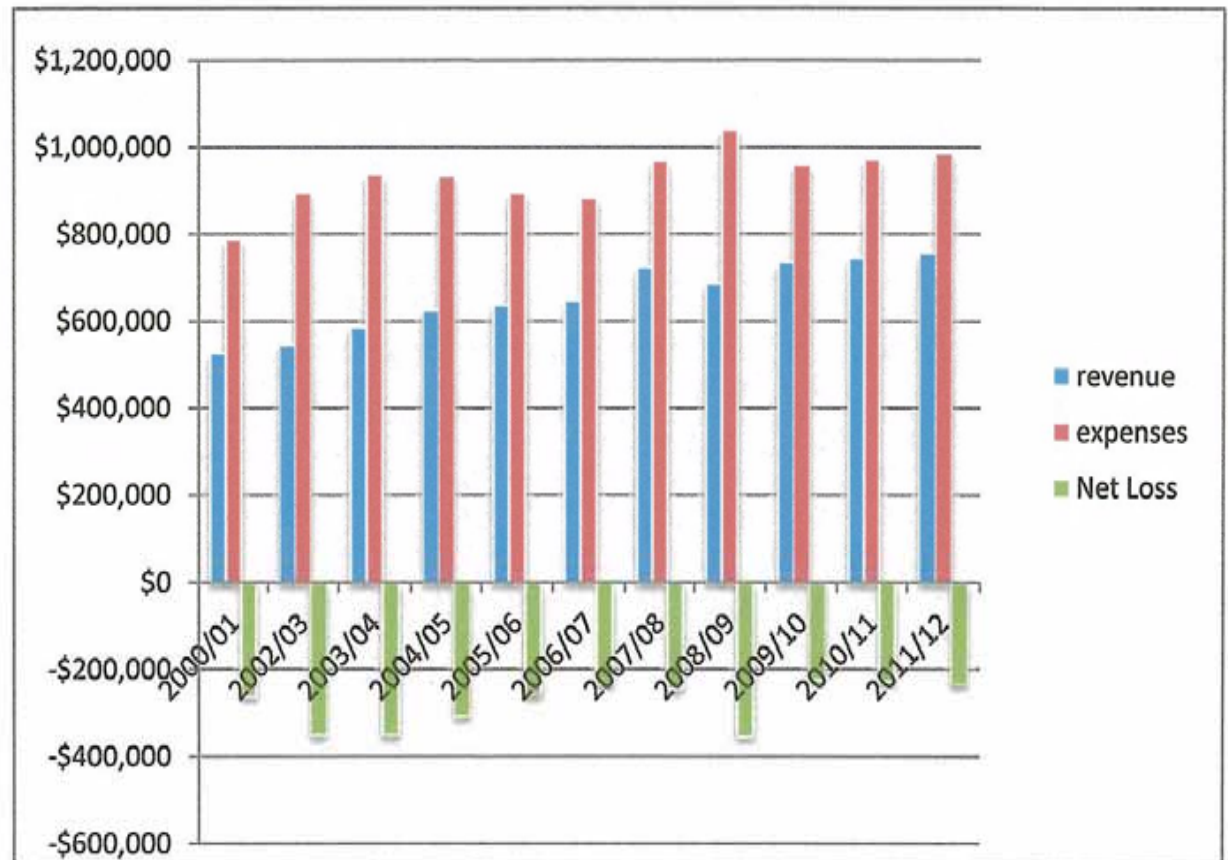
# 2013/14 PROPOSED REVENUE/EXPENSES BY FUNCTION

<b>WOODLEY ISLAND MARINA</b>			
	Income	\$1,151,672	
	Expenses	\$986,708	
	NET		\$164,964
<b>FIELDS LANDING BOAT YARD</b>			
	Income	\$159,300	
	Expenses	\$196,558	
	NET		(\$37,258)
<b>PROPERTY/TIDELAND LEASES</b>			
	Income	\$3,303,172	
	Expenses	\$3,036,306	
	NET		\$266,866
<b>HARBOR</b>			
	Income	\$158,322	
	Expenses	\$510,513	
	NET		(\$352,191)
<b>CONSERVATION/RECREATION</b>			
	Income	\$739,500	
	Expenses	\$905,481	
	NET		(\$165,981)
<b>ADMINISTRATION</b>			
	Income	\$854,500	
	Expenses	\$324,492	
	NET		\$530,008
<b>NET EXPENSES OVER REVENUE</b>			\$406,408



## WOODLEY ISLAND MARINA REVENUES AND EXPENSES 2000/01 - 2011/12

FY	revenue	expenses	Net Loss
2000/01	\$526,775	\$788,180	-\$261,405
2002/03	\$546,846	\$895,495	-\$348,649
2003/04	\$587,800	\$937,082	-\$349,282
2004/05	\$626,120	\$933,163	-\$307,043
2005/06	\$637,955	\$894,389	-\$256,434
2006/07	\$649,578	\$884,173	-\$234,595
2007/08	\$725,671	\$968,789	-\$243,118
2008/09	\$688,537	\$1,040,894	-\$352,357
2009/10	\$736,903	\$958,443	-\$221,540
2010/11	\$746,512	\$971,918	-\$225,406
2011/12	\$755,857	\$987,225	-\$231,368



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





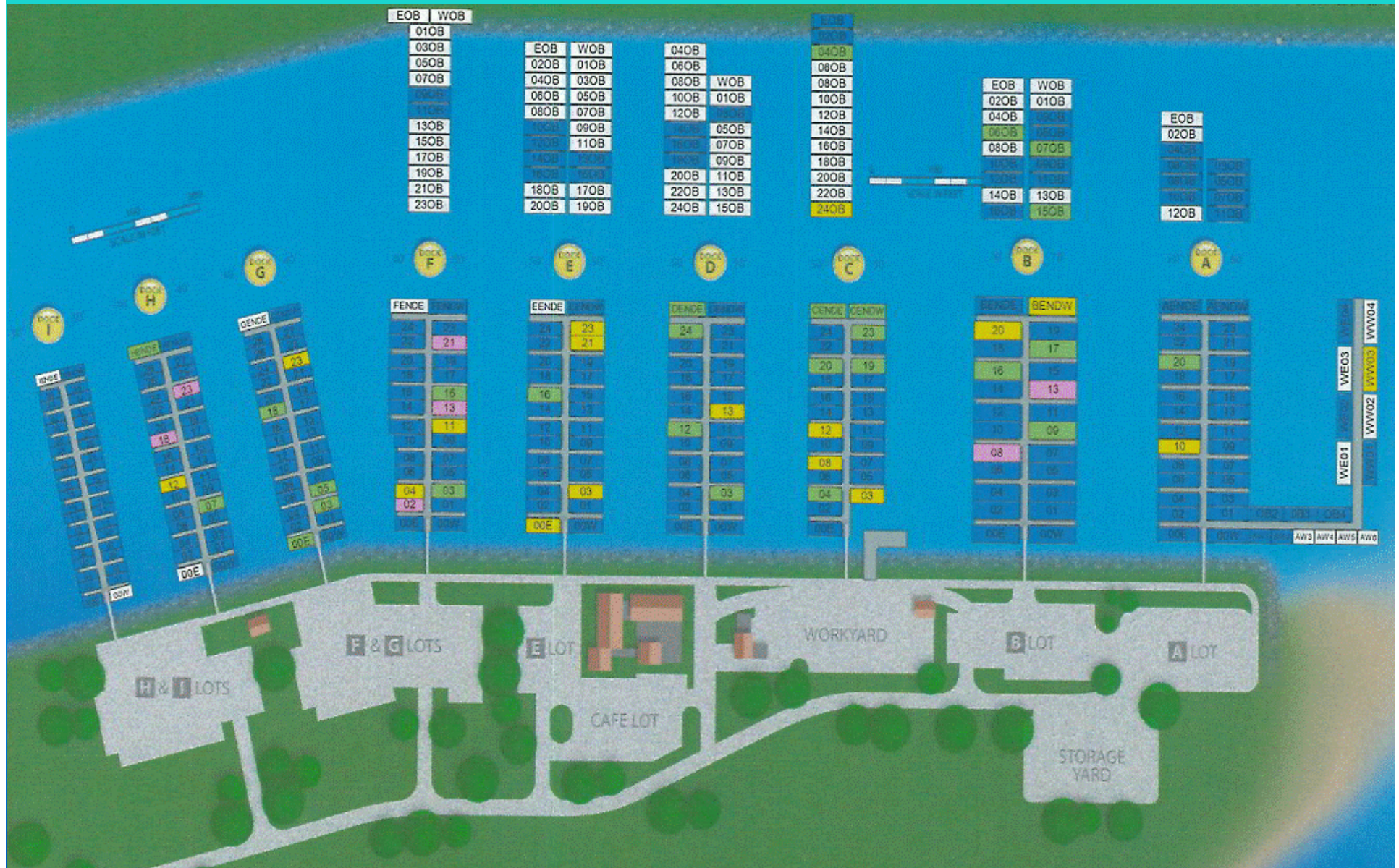


New Water Meters

2013/03/14



# New Marina Software







New Gates = Lower Security Cost



Wireless System = New Revenue





# New Lights and Cameras



# Woodley Island RV Park

## Preliminary Feasibility Study



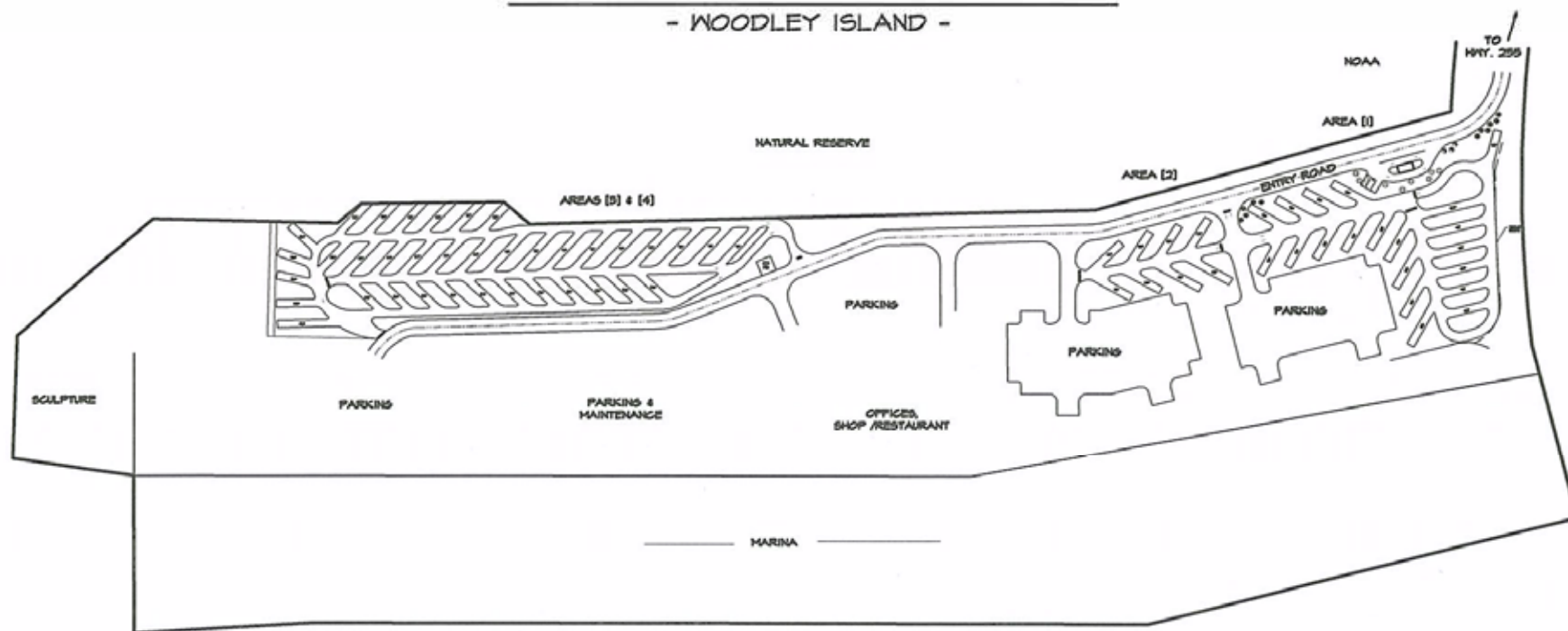
DRAFT October 2012



# WOODLEY ISLAND R/V PARK

HUMBOLDT BAY HARBOR RECREATION & CONSERVATION DISTRICT  
RV PARK PRELIMINARY FEASIBILITY STUDY

- WOODLEY ISLAND -



- HUMBOLDT BAY -

#### RV SPACES

PULL-THRU SPACES	92 SPACES
BACK-IN SPACES	99 SPACES
TOTAL # OF SPACES	65 SPACES

#### CONCEPTUAL LAYOUT RV SPACES

DO NOT SCALE



# 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



**AVAILABLE**  
**BOAT BUILDING AND REPAIR FACILITY**  
 FIELDS LANDING  
 HUMBOLDT BAY, CALIFORNIA





# *SHIPPING and COMMERCE*



*LOG EXPORT*



*FUEL BARGE*



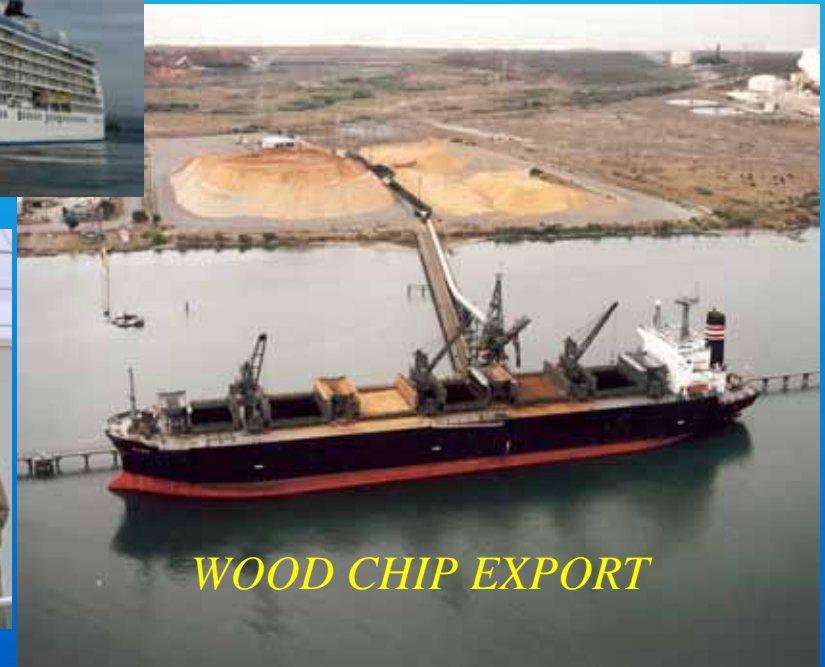
*NAVY*



*CRUISE SHIPS*



*WOOD CHIP EXPORT*



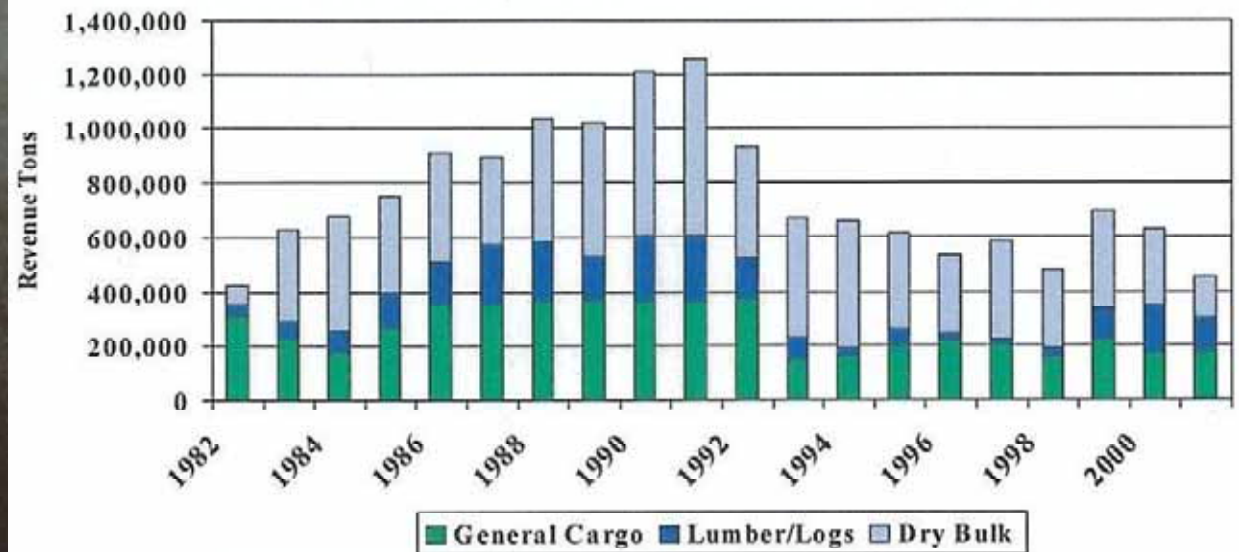
**Cargo Tonnage: 300,000 – 1,200,000 MT/YR**

**Export: logs and wood chips**

**Import: gas/diesel; logs; wood chips**

## Humboldt Bay Cargo Trends

Source: BST Associates using PMA data





# HARBOR IMPROVEMENT SURCHARGE HISTORY

CALENDAR YEAR	IMPROVEMENT SURCHARGE COLLECTED	HARBOR DEEPENING DEBT SERVICE	% OF DEBT SERVICE COLLECTED
2001	\$133,766	\$220,876	60.56%
2002	\$103,559	\$223,788	46.28%
2003	\$122,724	\$221,162	55.49%
2004	\$99,954	\$221,340	45.16%
2005	\$93,542	\$208,023	44.97%
2006	\$96,546	\$217,498	44.39%
2007	\$87,809	\$215,923	44.71%
2008	\$35,046	\$215,977	16.23%
2009	\$27,192	\$214,250	12.69%
2010	\$29,927	\$215,803	13.87%
2011	\$72,071	\$217,123	33.19%
2012	\$71,433	\$211,258	33.81%
	<b>\$973,569</b>	<b>\$2,603,021</b>	<b>37.40%</b>

## PILOTAGE REVENUE AND COSTS 1982-2012

YEAR	TONNAGE	SHIPS	PILOTAGE REVENUE	HARBOR DISTRICT COST
1982	425,000	12	\$36,000	
1983	625,000	17	\$51,000	
1984	700,000	20	\$60,000	
1985	750,000	21	\$105,000	
1986	900,000	25	\$125,000	
1987	875,000	25	\$125,000	
1988	1,025,000	29	\$145,000	
1989	1,015,000	29	\$145,000	
1990	1,215,000	34	\$170,000	
1991	1,300,000	37	\$277,000	
1992	925,000	26	\$195,000	
1993	675,000	19	\$142,000	
1994	660,000	18	\$135,000	
1995	610,000	17	\$127,000	
1996	550,000	15	\$150,000	
1997	590,000	16	\$160,000	
1998	480,000	13	\$130,000	
1999	700,000	20	\$200,000	
2000	667,163	19	\$190,000	
2001	816,569	23	\$230,000	
2002	679,498	19	\$190,000	
2003	839,180	23	\$230,000	
2004	762,887	18	\$180,000	
2005	699,194	19	\$190,000	
2006	705,574	2	\$23,860	\$91,187
2007	583,662	16	\$172,553	\$366,520
2008	439,559	15	\$162,624	\$369,115
2009	316,480	3	\$8,050	\$187,200
2010	339,985	1	\$6,424	\$188,496
2011	542,177	10	\$69,894	\$189,701
2012	451,078	7	\$59,665	\$190,942
TOTALS	21,863,006	568	4,191,070	1,583,161

Average	705,258	18	\$135,196	\$226,166
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Since 10/06, the average annual pilotage revenue

\$71,867

Harbor District hired as employees two Bar Pilots on 10/06	\$1,583,161
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Pilotage revenue received by the Harbor District.	\$503,070
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COST TO HARBOR DISTRICT 2006-2012	(\$1,080,091)
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# 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.

**CALIFORNIA ASSOCIATION OF PORT AUTHORITIES**  
Metric Revenue Tons

**TOTAL TONNAGE FOR 2011-12**

Rank	Port	Tonnage	Change From:		Market Share:		
			Last Year	Ten Years Ago	This Year	Last Year	Ten Years Ago
1	Los Angeles	170,904,406	8.0%	15.8%	47.1%	45.0%	48.33%
2	Long Beach	148,609,793	-3.0%	18.3%	40.9%	43.5%	41.15%
3	Oakland	32,287,606	1.9%	45.1%	8.9%	9.0%	7.29%
4	San Diego	2,920,338	0.6%	14.9%	0.8%	0.8%	0.72%
5	Stockton	2,652,153	31.7%	46.5%	0.7%	0.6%	0.59%
6	Redwood City	1,609,237	84.6%	44.8%	0.4%	0.2%	0.36%
7	Hueneme	1,317,717	7.6%	15.0%	0.4%	0.3%	0.38%
8	San Francisco	1,088,272	42.5%	-47.1%	0.3%	0.2%	0.67%
9	West Sacramento	805,536	49.7%	4.7%	0.2%	0.2%	0.25%
10	Humboldt	491,863	59.5%	-41.4%	0.1%	0.1%	0.24%
11	Richmond	235,127	14.0%	182.4%	0.1%	0.1%	0.03%
Total Tonnage		<u>362,922,048</u>	<u>3.1%</u>	<u>18.9%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>
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

Simpson Pulp Mill

Louisiana Pacific Pulp Mill

Sierra Pacific Industries

North Coast Chip Export

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



***Container on Barge***



***Cargo Dock***



***Local Bulk/Project Cargo***



### Sierra Pacific Industries

- 3 Approach Ramps
- 475 ft. in Length
- 15 Acres
- Barging Chips only
- Log export restriction



### California Redwood Co.

- 1 Approach Ramp
- 1,346 ft. in Length
- 17+ Acres
- Chip Export only



### Schneider Dock

- 1 Approach Ramp
- 400 ft. in Length
- 16+ Acres
- Log Export



### Fairhaven Terminal

- 1 Approach Ramp
- 500 ft. in Length
- 32 Acres
- Log Export





- 2 Approach Ramps
- 1,064 ft. in Length
- 20 Acres

Redwood Terminal Berth 1



Freshwater Tissue

- 156 Upland Acres

Redwood Terminal Berth 2



- 1 Approach Ramps
- 1,300 ft. in Length
- 0 Acres



# How competitive are we?

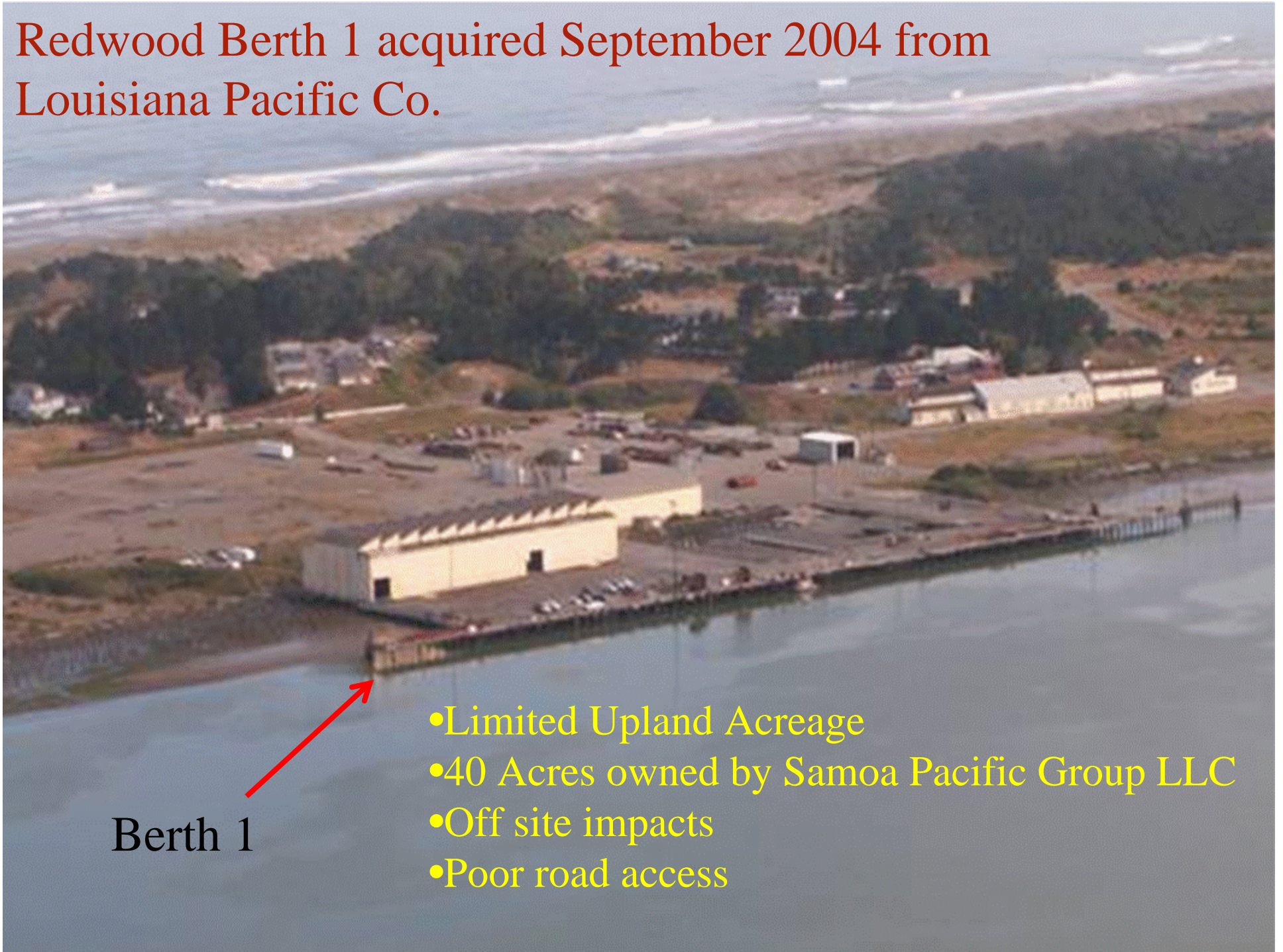
- Inefficient access-40% Higher labor cost
- Shortage of experienced Longshoremen
- Wood product cost higher-short harvest season
- Draft limits-can't fully load vessels-2<sup>nd</sup> Port call
- Ship size limited due to Tug horse power
- Lack of Public Docking facility-Open access
- Road access limited and no Rail system



Redwood Berth 1 acquired September 2004 from  
Louisiana Pacific Co.

Berth 1

- Limited Upland Acreage
- 40 Acres owned by Samoa Pacific Group LLC
- Off site impacts
- Poor road access







***REDWOOD MARINE TERMINAL  
BERTH 1***

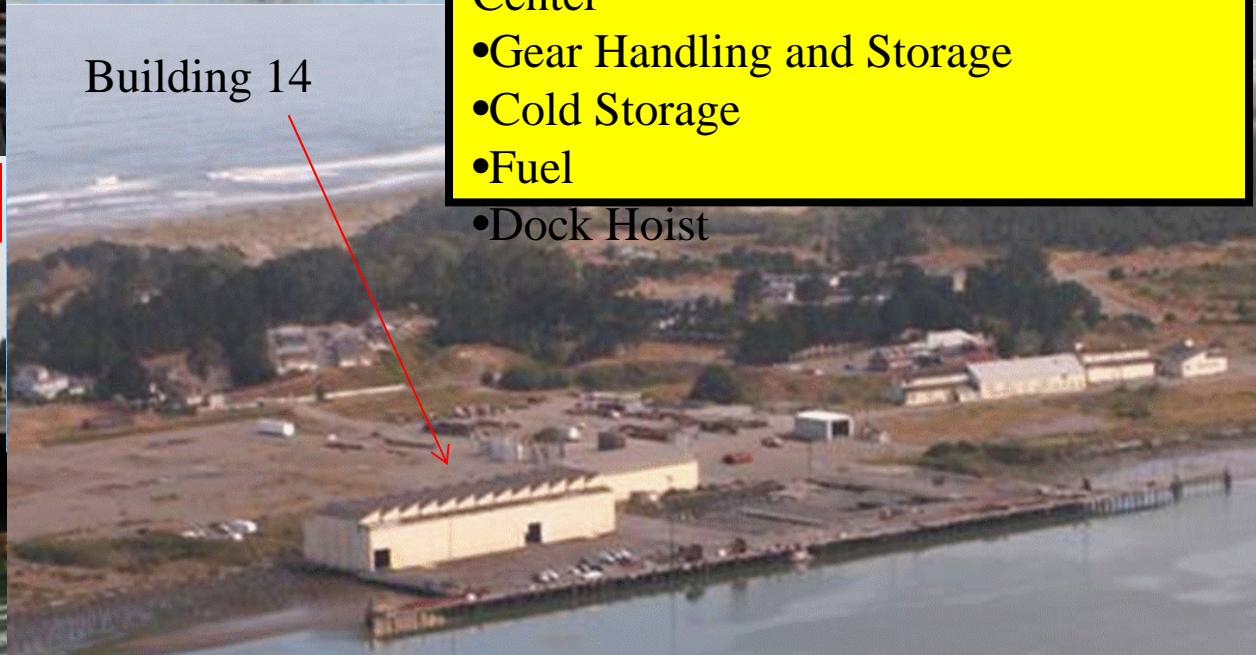
Demolition of Building 14



Dock Repair & Improvements



Building 14



**Commercial Fisherman Support  
Center**

- Gear Handling and Storage
- Cold Storage
- Fuel
- Dock Hoist



## Dredging Woodley Island Marina 2007



An aerial photograph of a coastal area. In the foreground, there are white, foamy waves crashing against a rocky shore. A river or inlet flows from the bottom center towards the middle of the image. The riverbanks are covered in dense, brownish vegetation. In the background, a long bridge with many piers spans across a body of water. The sky is overcast and grey.

-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







Astoria, Oregon



Cutter Head Suction Dredge

# 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

Reduce, Reuse, Recycle

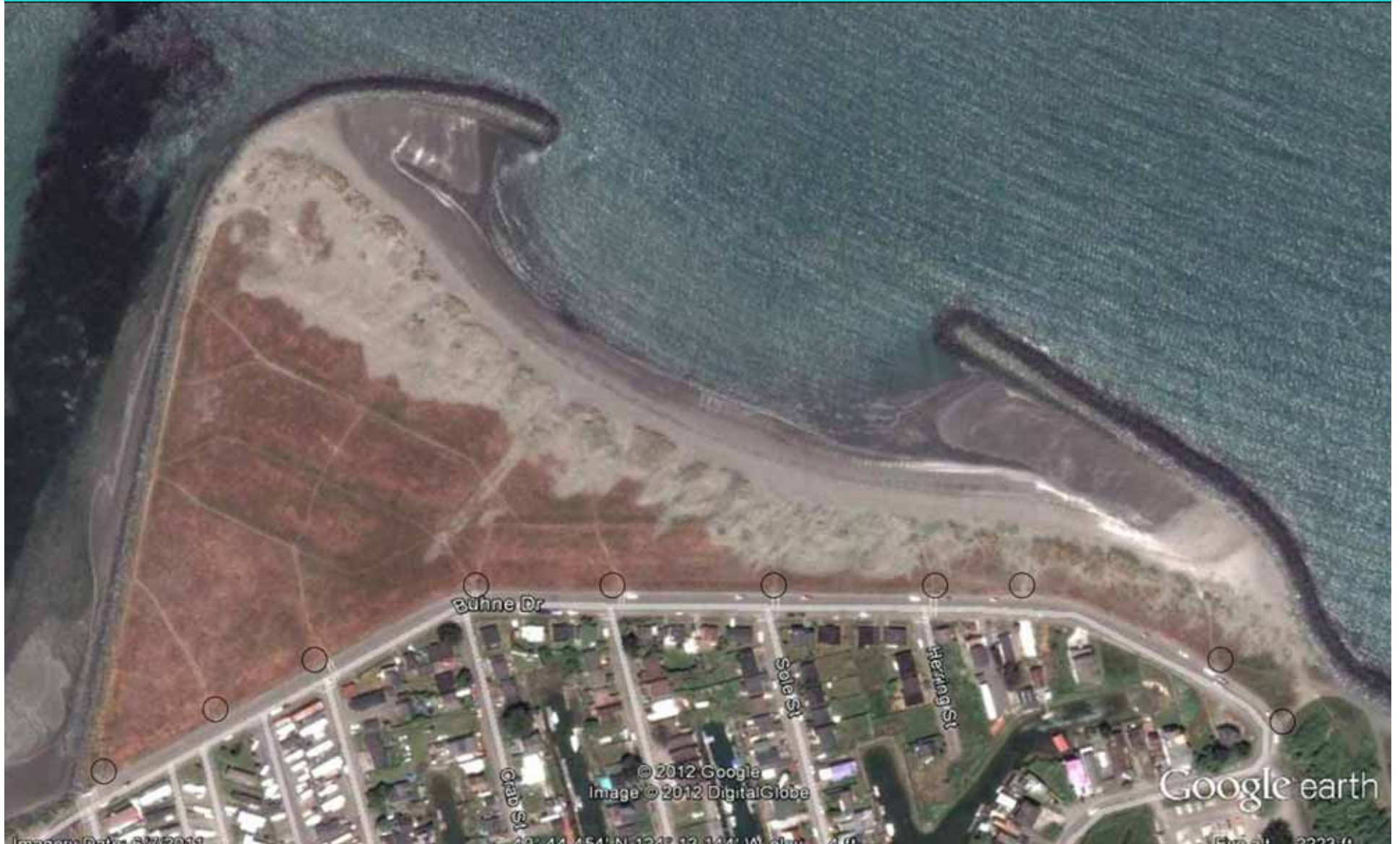


Humboldt Bay Symposium 2012





# *King Salmon Dunes built with Recycled Dredge Materials*



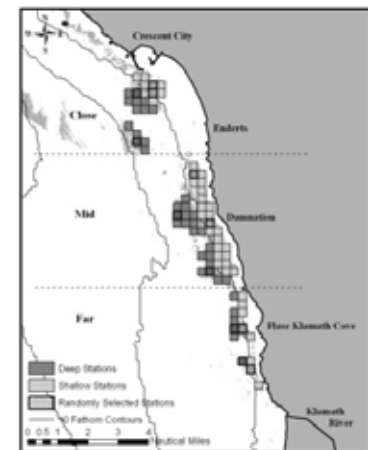
# CONSERVATION

## *Protecting the Resources of Humboldt Bay*

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



Crescent City Sampling Frame

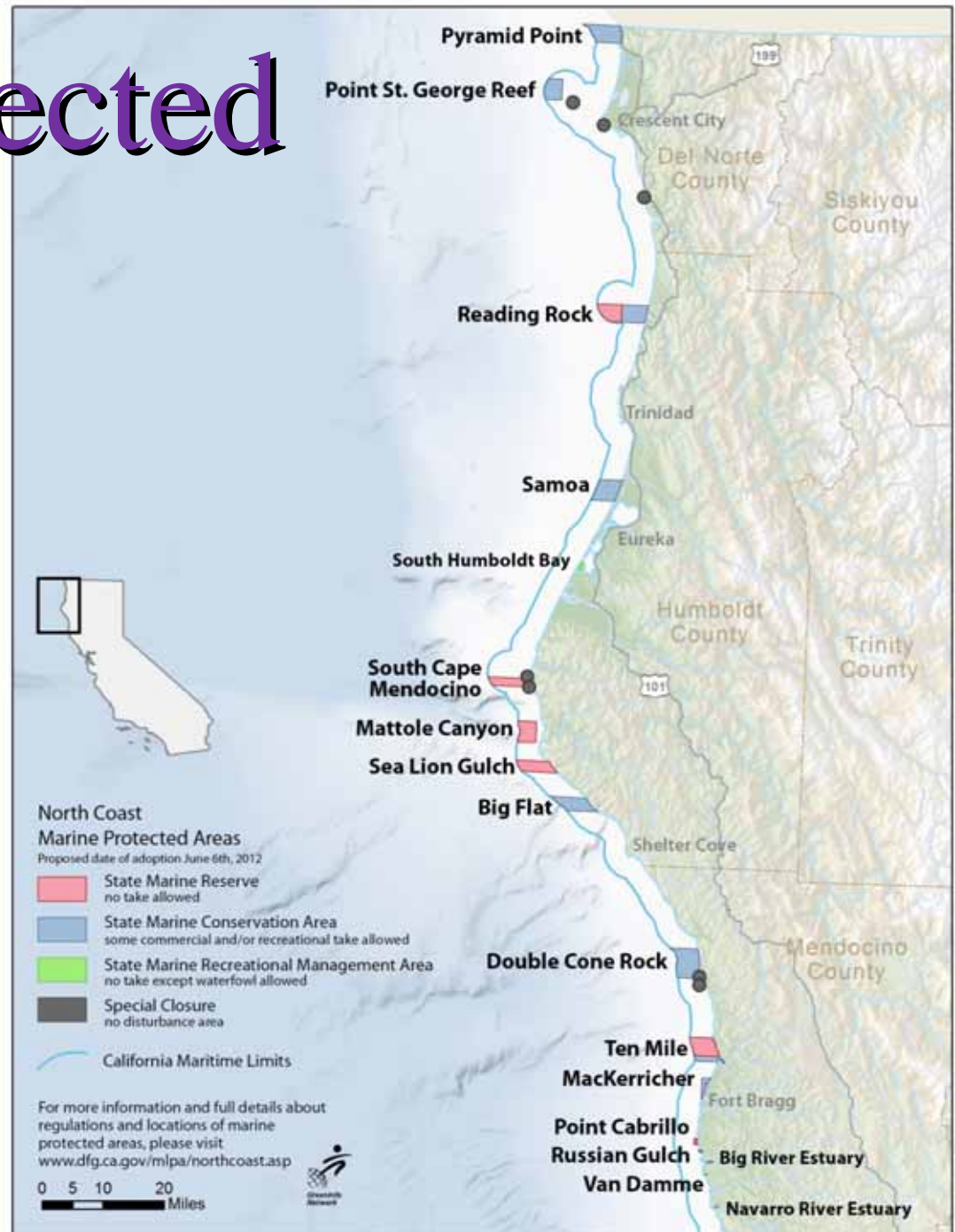


Two stations randomly selected from each distance (close, mid, far) and depth (deep, shallow) strata. Deep and shallow strata mean station depths 12-18 and 5-10 fathoms respectively. 20 percent maximum rocky habitat within possible sample sites.



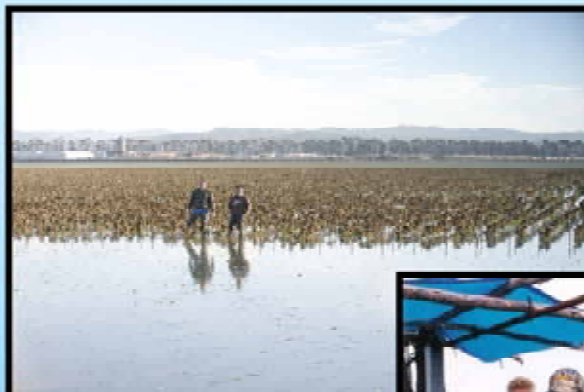
# Marine Protected Areas

- 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



*SHELTER COVE*



WATER TRAILS

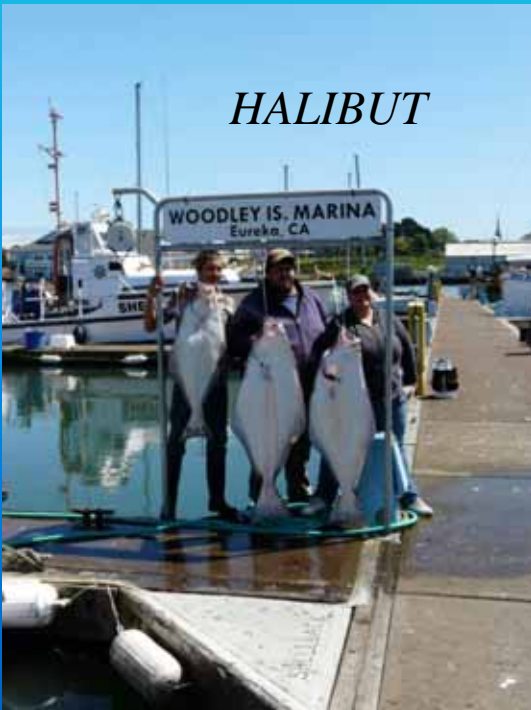


**KING  
SALMON**



# RECREATION

*HALIBUT*



*ARTIFICIAL  
REEF FOR  
ROCKFISH*



SPORT FISHING





# Artificial Reef-HASA

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



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





# 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



July 23, 2012



# *Samoa Industrial Waterfront Transportation Access Plan*

- Funded \$250,000  
Transportation Grant
- Connecting for Federal  
Highway Designation



Samoa Industrial Waterfront Transportation Access Project  
Route Alternatives Map





# FRESHWATER TISSUE



# Proposal to purchase Freshwater Pulp Mill



**Freshwater Pulp (Evergreen Pulp) Mill  
before shutdown in 2010**

**PAST**



- **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







© 2012 Google

Goog

Date: 8/23/2012

40° 48.327' N 124° 11.623' W elev 24 ft

Eye

# 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







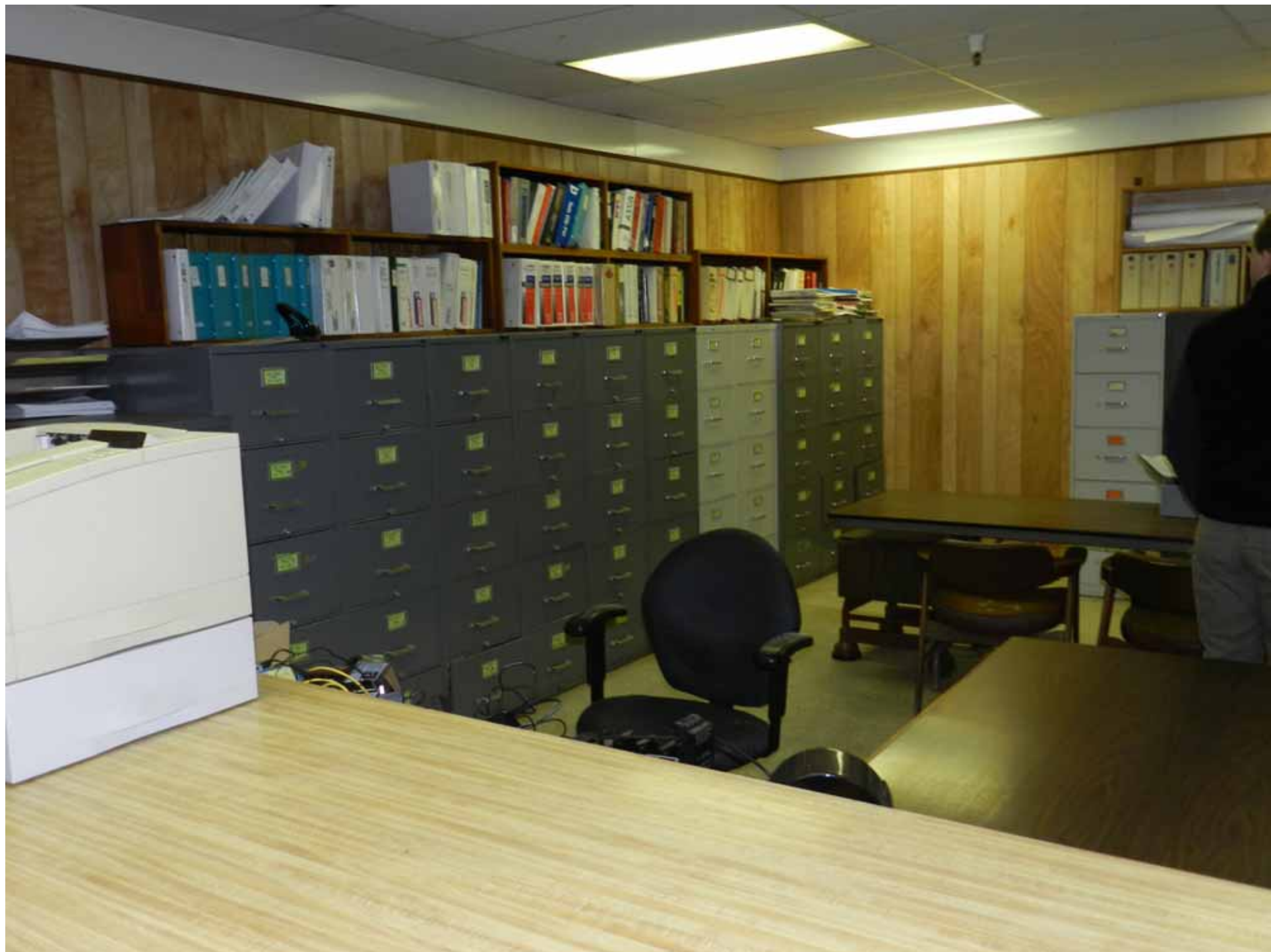










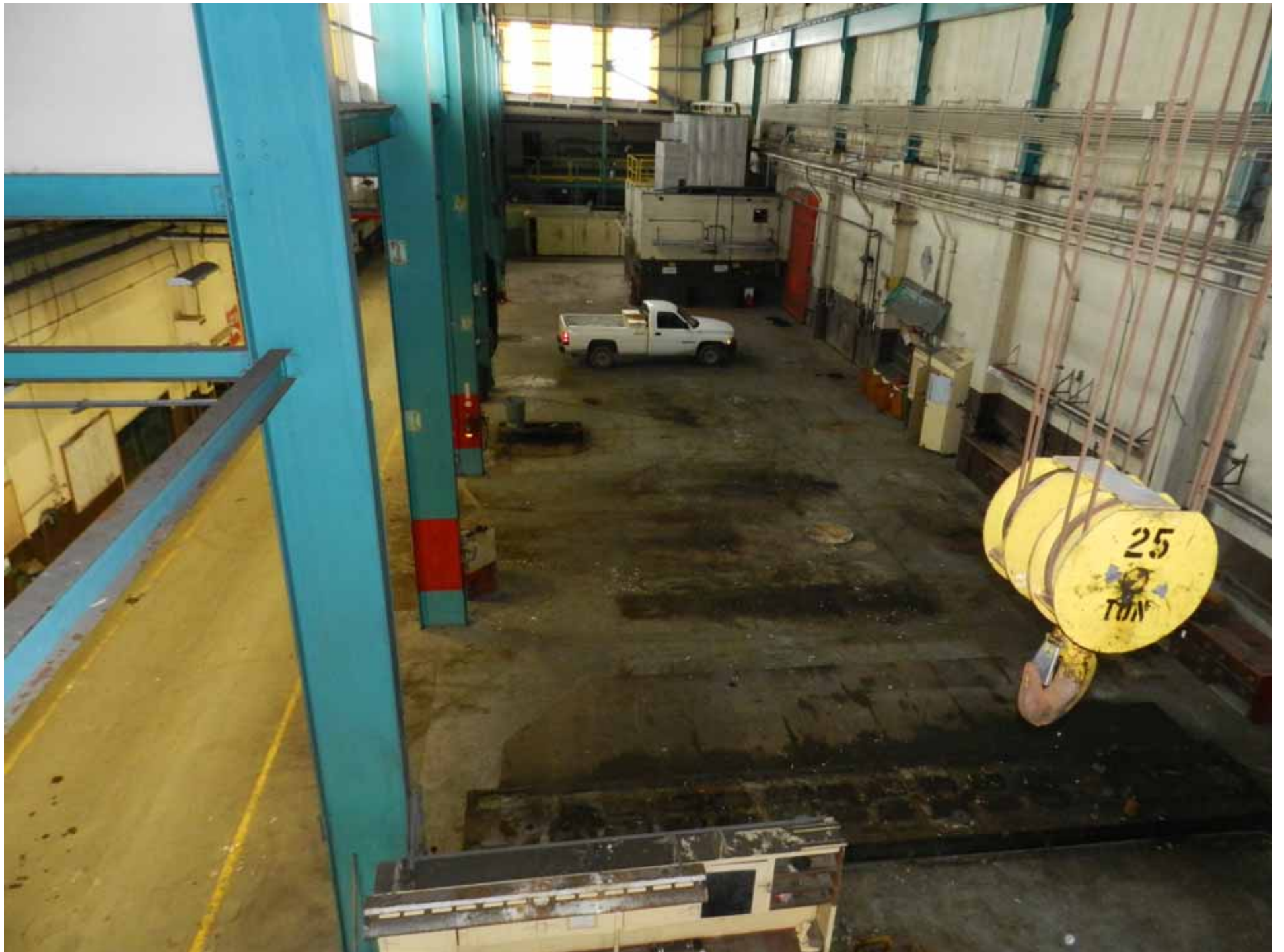






























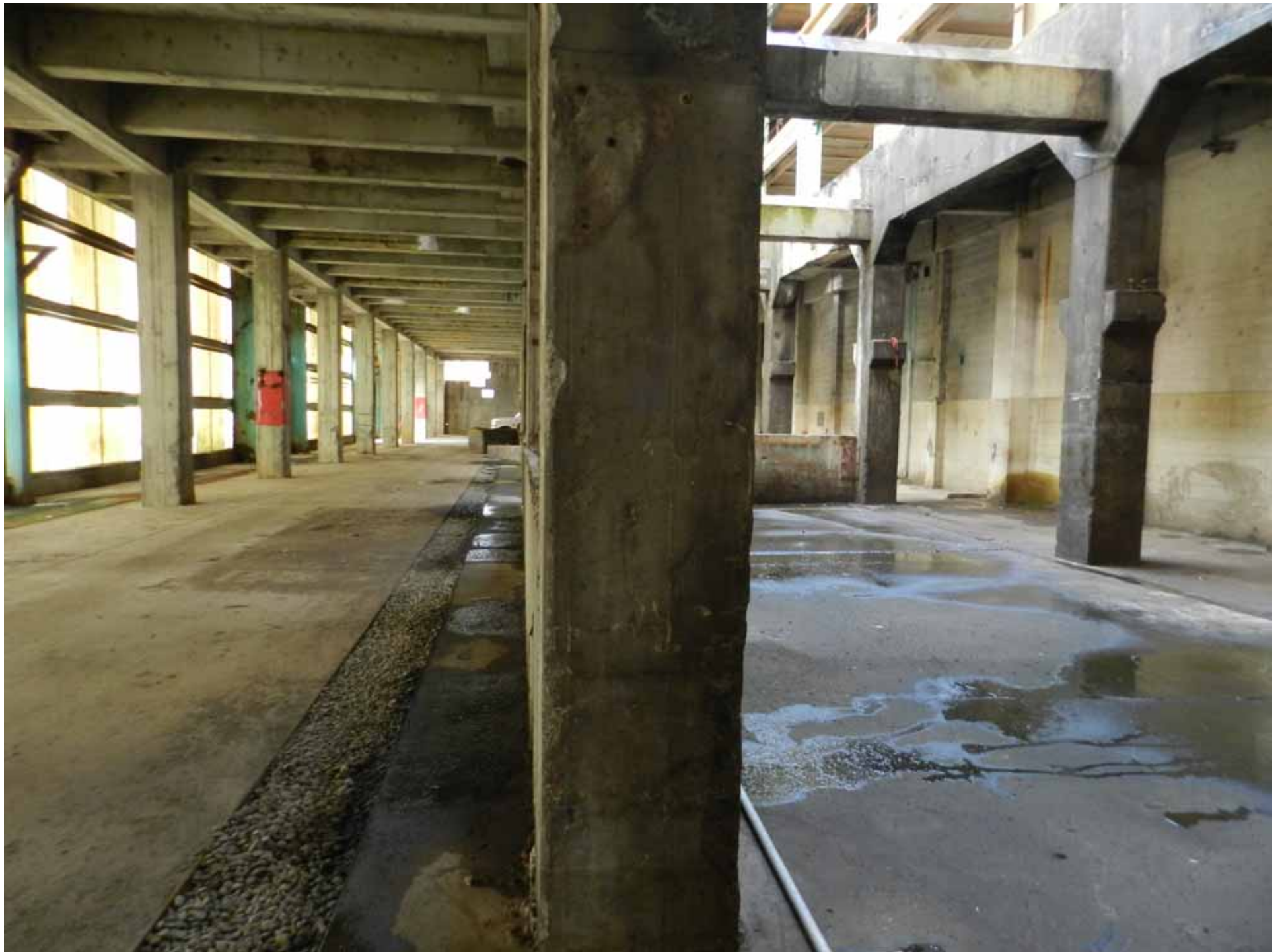




















# Potential Uses of Property and Buildings

- 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



48" 1.5 Mile Ocean Outfall Pipe

© 2012 Google  
Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
Image © 2012 TerraMetrics

Google earth

40° 48.339' N 124° 11.216' W elev 0 ft  
Eye alt 12500 ft

Image © 2012 TerraMetrics

Eye alt 12500 ft 



48"







# 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**



# National Marine Research and Innovation Park





# PUBLIC CARGO DOCK



# PUBLIC CARGO DOCK



- Public shipping dock
- Longshore services
- Break Bulk storage warehouses
- Bulk transfer from ships

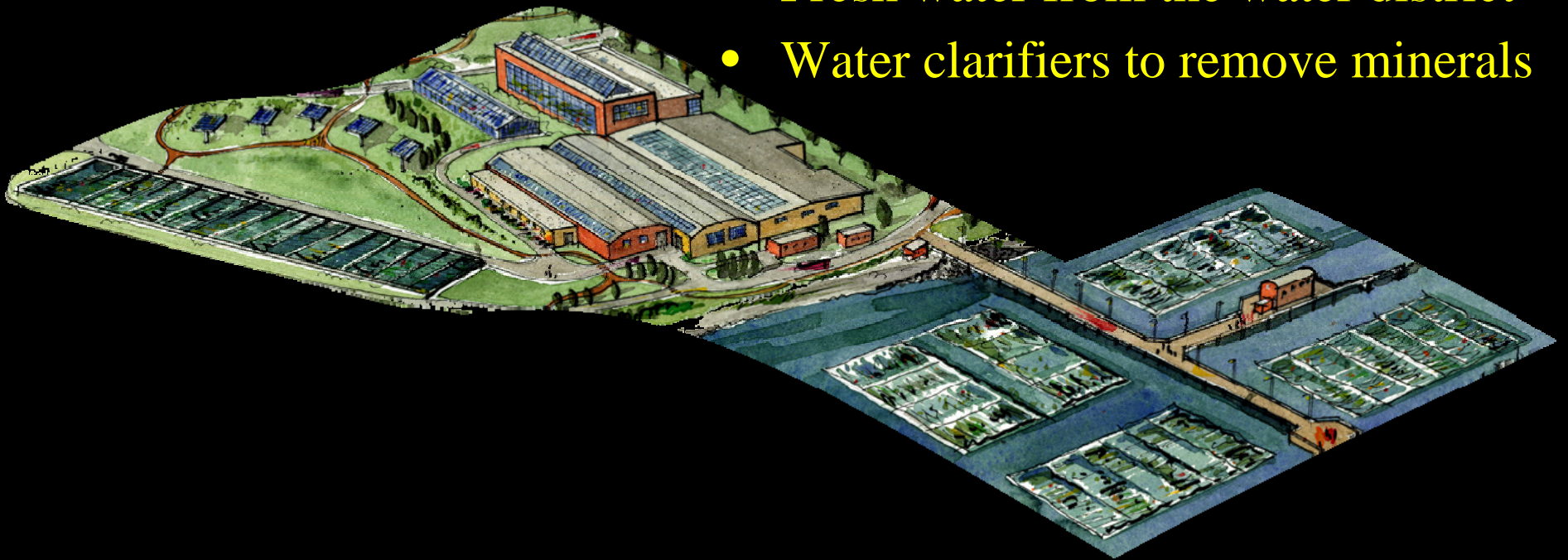


# AQUACULTURE



# 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



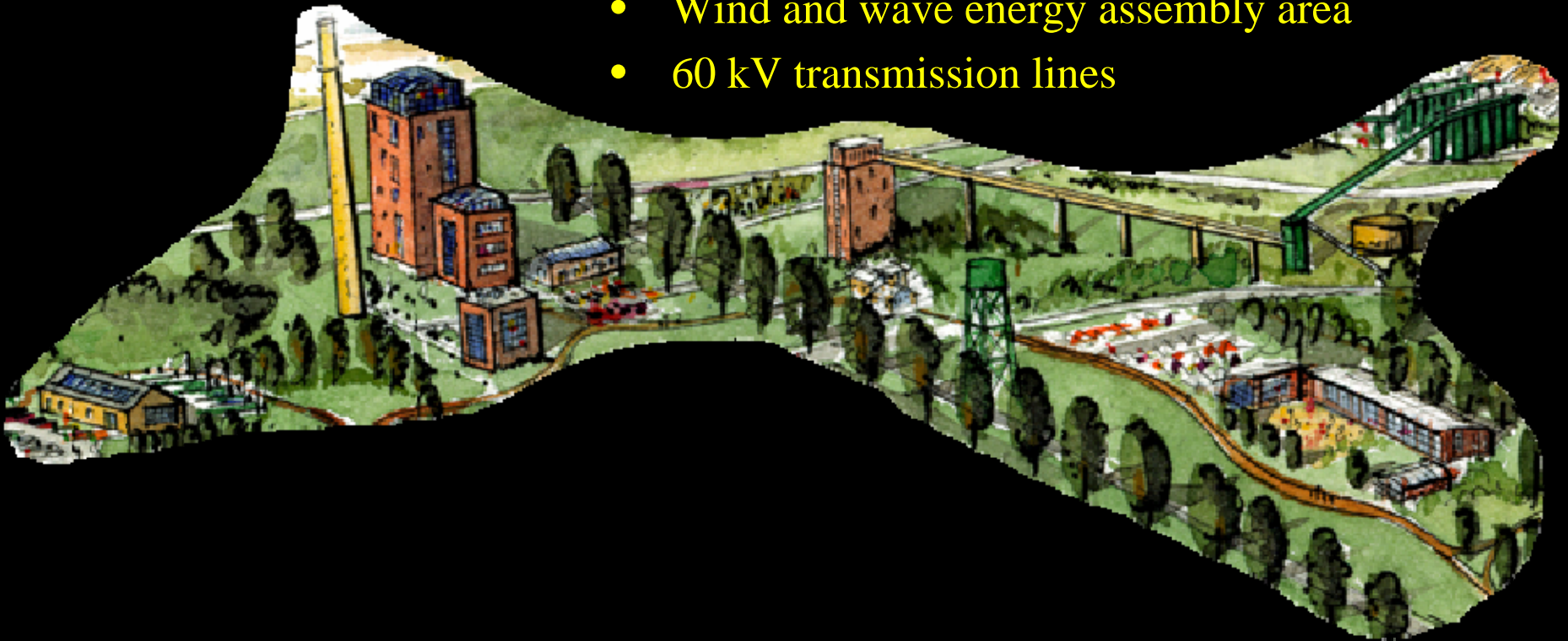


# ENERGY



# 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



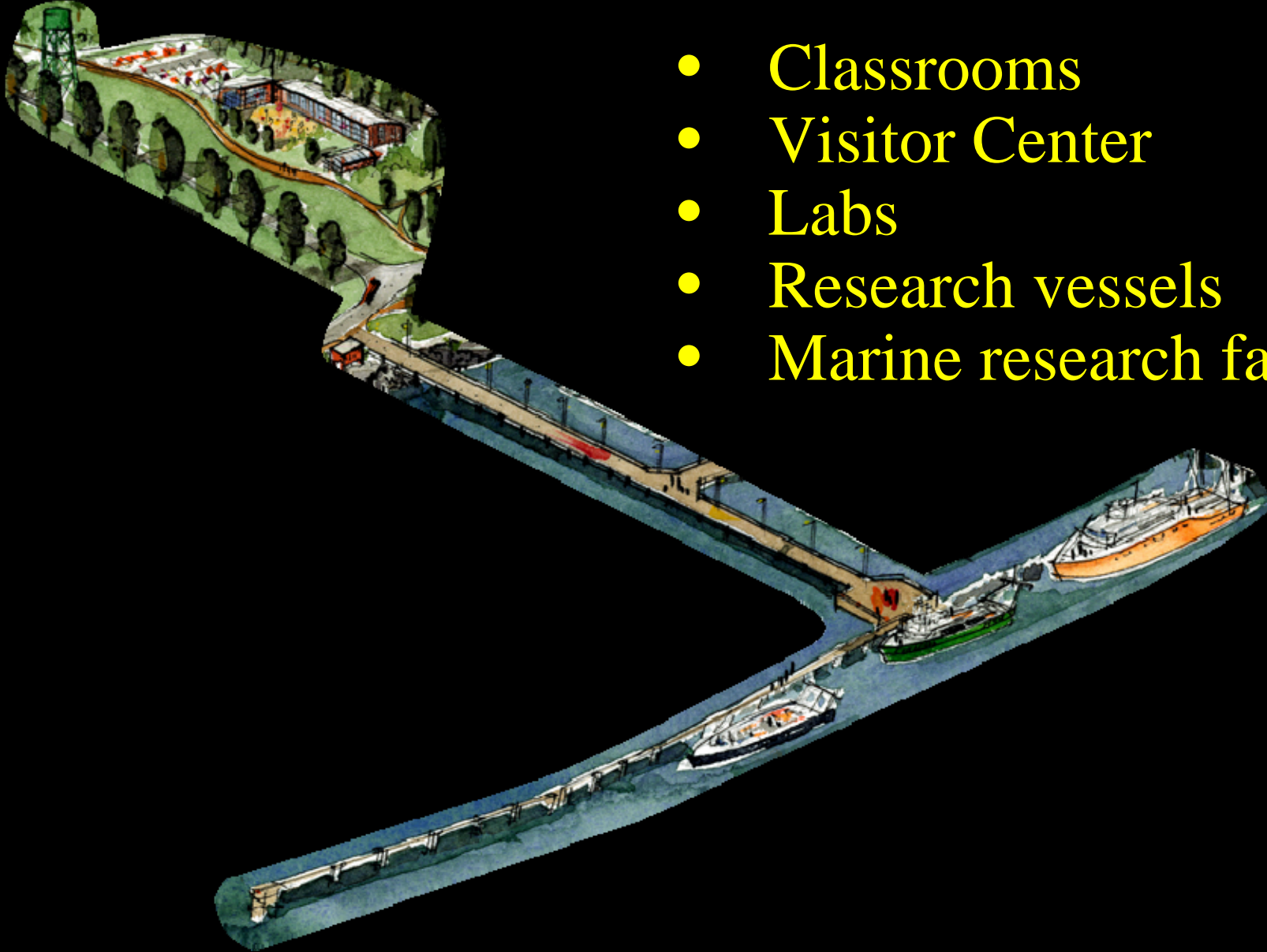


# MARINE RESEARCH



# 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

## Humboldt Aquaculture Innovation Center

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



[www.aquaponicsinternational.com](http://www.aquaponicsinternational.com)

- 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

- Zero waste [www.aquaponicsinternational.com](http://www.aquaponicsinternational.com)
- Freshwater re-circulating system: Vegetables & Fish
- Organic by design (no pesticides/herbicides)
- 2,100 sq.ft. greenhouse donated by Sun Valley Farms

# 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



Thank you

Questions?

