

ASSESSMENT OF TRENDS AFFECTING PLANNING FOR OREGON'S ESTUARIES AND SHORELANDS

APPENDIX B: Compilation of Interviews



PREPARED FOR THE OREGON COASTAL MANAGEMENT PROGRAM,
OREGON DEPARTMENT OF LAND CONSERVATION AND DEVELOPMENT



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PREPARED BY COGAN OWENS COGAN, LLC

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Oregon Coastal Management Program
Jeff Weber, Coastal Conservation Coordinator
Matt Spangler, Senior Coastal Policy Analyst

Cogan Owens Cogan, LLC
Jim Owens, Principal
Steve Faust Senior Planner
Laura Goodrich, Graduate Research Assistant
Nancy Marshall, Graphic Designer
Alisha Morton, Public Engagement Associate

Strategic Advisors
Mitch Rohse, Consultant in Land Use Planning
Lisa Phipps, Executive Director, Tillamook Estuaries Partnership

Study Participants (See Appendix A in the Study Report)

ACRONYMS

DEQ	Oregon Department of Environmental Quality
DLCD	Oregon Department of Land Conservation and Development
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
NOAA	National Oceanic and Atmospheric Administration
North Coast	Clatsop, Tillamook and Lincoln counties
OCZMA	Oregon Coastal Zone Management Association
ODFW	Oregon Department of Fish and Wildlife
OMCP	Oregon Coastal Management Program of the Department of Land Conservation and Development
R&D	Research and development
South Coast	Coastal portions of Lane and Douglas counties, plus Coos and Curry counties

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APPENDIX B: COMPILATION OF INTERVIEWS

The following is a compilation of input received during 40 interviews conducted by Cogan Owens Cogan, LLC (COC) in Spring 2013 as a component of the assessment of trends affecting Oregon's estuaries and shorelands. Key coastal stakeholders in a variety of fields were identified as potential interviewees and invited by OCMP to participate in interviews. Parties interviewed are identified in Appendix A. Interview results are intentionally unattributed.

1. Key Drivers

What do you perceive to be the key drivers of change for the coast over the next 2-3 decades?

- When the downturn in the forest products industry, training people for jobs that didn't exist and they had to leave, great program, great idea, but doesn't work to retain people.
- Further growth in the ocean observation, marine energy and science fields. Many facilities already exist, (Hatfield, NOAA), there is opportunity to provide a new build-out for the Newport Marine Technology Center. On property already zoned for water dependent developments.
- Will be involved in more shipping activities, nearly complete rebuilding international shipping terminal for imports / exports.
- Commercial fishing will stay consistent.
- Negative: environmental concerns that aren't even in the area coming from outside the area in the state and out of the state. Positive: Economic and industrial growth (but because of the negative it's not going to happen).
- Tourism will continue to play a key role. Because unable to secure development on the coast for family wage jobs. The impact on fishing season restrictions that curtail family wage jobs. Drives stuff into minimum wage territory – key driver is a lack of jobs that create more jobs rather than tourism jobs. Environmental restrictions are too restrictive, windows for dredging, costs small ports have to pay. Environmental groups that make it their life to restrict further.
- Population and environmental will not be key drivers. The amount of available development has already been done. Not much will impact new things, measurably.
- Environmental - increased awareness of coastal hazards, emergency preparedness/planning; climate change; restoration on development in flood plains and coastal areas. Resulting in lawsuit against FEMA (which it lost; now revamping rules for development within flood plains with ESA species in WA, has lead to tighter local regulations. Unclear how will affect development estuaries. FEMA & NMFS new restrictions can be expected (including for water-dependent development). Working group just starting to meet - counties, AOC, others.
- Marine research, especially with NOAA fleet headquartered in Newport. Medical services. Renewable energy, including biomass, synergistic. Clusters of development. Historic preservation / restoration.
- Cascadia Subduction Zone - we know huge earthquake is going to happen. May not really change anything except location of public facilities; not going to lead to significant land use changes.
- Population change, especially in northern portion of coast that has access to I-5/Portland.
- Newport has a pretty diverse economy. NOAA, strong fishery, and strong tourism element. The international commerce piece coming into play again, because the deep water facility is back up to par. In the next few months will be doing log exports again. Also have a regional/commercial piece (county seat) will continue to grow at a modest pace as it has done historically. On the environmental side – will face more bluff erosion. Certain impacts with climate change that will affect them. On the City side it's looking at city services to unstable areas and curtailing those services. Don't have a lot of land impacted by sea level rise, but estuaries will be affected. Most of Newport is up on bluffs. Sea level rise will not be as big an impact. Newport will continue to be a tourism and retirement destination. Will continue to

have an aging demographic. Will continue to have a challenge with workforce housing because prices are driven up. Economic downturn slowed the pace of home prices and made them more affordable, but we expect that this trend will change as the economy will improve. Schools continue to be challenged. Enrollment has flattened out.

- Whether or not the Port of Coos Bay develops / redevelops and creates jobs. Jordan Cove and Liquid Natural Gas (LNG) project. The next three years will dictate what happens for the next 20. If redevelopment doesn't happen, not much will change. Population has been about the same the past 7 - 10 years – more of the 'greying and balding' folks, because there are no family-wage jobs.
- Whether or not the LNG plant comes in. The stagnancy of the logging / forestry / timber / commercial fishing industry and the reduction in family wage jobs. General concern re development in estuaries and shoreline - effects on shellfish collection. Tribal issues - near shore ocean resources are important to tribes. Benefits of restoration projects for fish.
- Key drivers: Enterprise – think of the coast as an enterprise – and what drives that. What are its asset based pieces – how profitable is the coast – what kind of growth will it experience – what are its human resources – what are the people doing – and does it have cash on hand.
- Climate change, redeveloping urban shorelines, restoration of wetlands.
- Urban shorelines change over time, new facilities, and changing local comp plans to change uses, type of development that occurs there and the estuary itself might be affected itself. Saw this in Newport recently when amended port plan and comp plan to allow for the type of zoning the NOAA facility on the other side of the estuary. This changed the shoreline and estuary.
- Increased development. Climate Change - increased storminess, sea level rise, ocean chemistry change.
- Transitioning economies, with continued upheaval in some areas.
- 1) Energy development – potential limited by infrastructure to transmit that energy. 2) Community based fishing e.g. Coos Bay, Reedsport. 3) Second home development.
- Increased awareness and concern about frequency and impacts of natural hazards. Certification of dikes (costly). Increased energy proposals/projects. Legacy of strong land use. Based on trends from 30-40 years ago. Adaptation challenges. Tradeoffs between development and not developing.
- Central/South coast established based on natural resources. Growth in these industries is declining. Resulting in a period of reinvention. May result in increased focus on tourism/retirement.
- Demographics – aging population/limited replacement population (youth/middle age). Lack of employment. Culture – urban culture is preferred by youth (potential workforce).
- The agreement with fisheries sources that the time of the gold rush is over – and now we need to go back to a sustainable level. In other words, we've fished down all the resources and now we need to fish sustainably. This is a big issues with the fishing industry. This means less. With other resources – the perception by many people is that there are more resources available then there really are at an economic level. For example wave energy, it will be a long time before it can be a boon economically. Don't have the shorelines. We have extreme events that will make it costly. Wind farms – it will cost us an awful lot. Tourism – Oregon has to be reasonable about what we can expect from tourism. It's a great coastline but it's cold even in summer. Tourism will have limited potential. And be good for people who want to hide out in condos and watch the storms. The DLCDC needs to be very careful in jumping into this and needs to do some background economic work. Another example – on wave energy – there was one study done for the industry by NW Economic Industry – done by firm for the industry on what the industry wanted to hear. Need to be done by the state for an honest answer.
- Recreation and small boutique or cottage industry agriculture. For instance, in Clatsop County, there's a Native Oregon Wild Rice that some are experimenting growing. In Curry County, people talking about the "old days" when we grew cranberries in coastal bogs. Lots of CSA farms cropping up. Look for ways to derive a living from the land and natural resources in a different way. The big picture is moving from large scale wholesale resource extraction to small scale / buy local / source local / community situated. Also, CSF or community supported fisheries are in the very beginning stages and are picking up on the CSA model. Port Orford Sustainable Seafood is a great model of this. Operationally they have

done a great job despite being far from any key market area. Garibaldi, completely failed and they are closer to large populations. In Newport, they are called Four Captains or Newport Fisherman's Coop. Small ag, CSF model doesn't / isn't going to stop at fish. Think it's going to broaden into shellfish, crab, and locally hand caught fish in estuaries. Seaweed.

- On the coast, we are looking at climate change affecting us with worse storms. More erosion of the cliffs. And we are trying to plan ahead for it. Shorelines are pretty developed, not much additional pressure in that direction. Estuaries are still affected by Port activities – extension of Newport and Toledo. A trend in protecting valuable habitat going on. Several groups slowly but surely plugging away. Seeing acquisition of lands, Yachats to north of Lincoln City.
- Permitting and moving forward of the LNG project on the South Coast which would have a huge effect on the coast as a whole because it would create the best marine shipping channel. Investment of \$5.8 billion dollars, a huge opportunity for the South Coast.
- Lack of funding for dredging of ports - less dredging in smaller ports resulting in adverse effects on fishing industry. Harbor maintenance trust fund not being used for its purposes, being siphoned off for deficit. No more earmarks in federal budget.
- Transition into spatial management. Better policy, spatial allocation, multiple users groups, and accommodation of traditional industries. Climate change. Regulation changes. More complex, difficult. Will make it more difficult to use estuary for human use (increased environmental protection).
- Natural Environment. Geological event – earthquake, tsunami. Climate change – sea level rise, increased erosion. Human - Population change. Increased infrastructure degradation.
- Fiscal - without significant change, potential population shift away from coast; question is resiliency. Physical - more at risk from climate change impacts.
- Coastal fisheries converting from commercial to recreation and consolidation of supportive industries, e.g. canneries; no return of salmon fishery within timeframe; continued encroachment of second home development.
- Key drivers are going to be watershed changes and modification of land use in the watershed that will affect local watershed hydrology. In an estuary environment nowadays, modification to land use change is probably driven more by climate change. Based on run off and precipitation patterns – and also in the estuary environment with storm events and sea level rise. Storm surges. Have evidence with monitoring going on for some time – increasing heights of storm waves and increasing frequency of storm waves.
- Rebound in economy. Natural hazards. Limited infrastructure capacity.
- 1) Alternative energy development 2) Sea level rise 3) Population growth associated with climate change 4) water quality challenges.
- Climate change. Increased invasive species. Public health concerns. Physical erosion. Sea level rise. Climate change will become more widely understood which will lead to a change in the decision making process. Where to live. “Optional Housing” – second home purchases will pick up.
- Economic change. Curry County very tight. Strong community, but needs an economic push. Could use more money in schools, have lost nearly all programs for the schools. (Band, art, and other programs keep getting cut). Many classes have 35+ kids and it's pretty stressful. Industry. Not sure what that is yet – bio-char plant – looking at FTE jobs for something like that. But, lost all economic firepower with the end of mills and fisheries. Thrive in the summer as a tourist town but through the year, not so great.
- Climate change. Development.
- Ocean acidification. Energy (in the sense of bringing energy into the ocean, marine off shore energy or wind). Climate change.
- You will see some environmental related impacts primarily around climate change and ocean acidification. The oyster industry, they are already seeing impacts on shell development because of ocean acidification. Increased population – if looking out 20-30 years – population growth that is not just “natural” but also climate related migration to Oregon. You will see increased difficulties with economics and a drive to engage in what can be considered damaging industrial practices, such as the proposed the LNG facilities in Coos Bay in the name of economic development, we will export precious

commodity to foreign entity. Unless we fundamentally alter the global trade environment, will see trade impacts related with transport – related mostly to the Columbia River – thinking places like Coos Bay and places like Portland and the Columbia River with impacts from shipping. Think that you won't see any impacts in wave energy on estuaries or the ports per say, the wave energy devices are so far away or so small that don't foresee impact other than increased traffic, but insignificant related to wave energy.

- Different changes. Social, economic. Will people continue to find meaningful employment, fisheries, shipbuilding, lots of changes in the economic landscape around jobs – lots of uncertainty there. Living day to day. Macro economics, will people move there to work, recreate or what. Climate change, sea level rise, ocean acidification. Fisheries, will we have sustainable fisheries – the management paradigms in place to have that move forward? Are there going to be emerging off-shore renewable energy or aquaculture that can be game changers.
- Drivers of change will be development; the fact that we live on the coast and so much of the population is drifting towards the coast. Though Oregon in many ways is “unblemished,” it's only a matter of time as more people move to the Oregon coast. Development will become a prominent issue. The extraction industries, forestry, ag, fishing, they are going to be more and more restricted as time goes by. In certain areas of the coast those are the current drivers, and economically they are replacing them with tourism – which in no way can make up for the loss of the economic benefits of the extractive industries. The lack of diversification of the economy on the coast will be a large challenge. As demographics change you will have a lot of socio-economic conflict that will be challenging as we move forward in terms of how communities develop and how they will look in 20-30 years. It will be a challenge for local government to adapt quickly – many are not looking ahead at these issues actively.
- Single biggest driver of change will be climate change. Use that in a very broad sense to talk about sea level rise, ocean acidification, and an increase in coastal hazards. Will have big effects on fisheries, recreation, and coastal development patterns. May also effect agriculture and forestry and even wildlife. The forces of climate change will bring political change too. Regional, national, and worldwide forces. Increased state and federal activity with regard to these things.

2. Economic Growth

The great recession recently slowed Oregon's growth for several years, but there are signs of change. What changes in our coastal economies do you foresee?

- At the port, we looked at can we develop high tech jobs here? Consultants said, hard, because you don't have an uninterrupted power supply, can't have brown/black outs. If the one leg goes down don't have power for a few days. Look at the concentration of high tech dev jobs in manufacturing, they tend to be close to educational facilities with training programs. Coos Bay has the community college, but they no longer have the students. Needs to be a balanced use of the asset. Marine cargo industry has been here 150 years. That can be an economic driver for the industry and get us out of this 30 year recession. Charleston RV and Marine parks – involved in tourism, also commercial fishing, also support fleets out of Coos Bay and Charleston, and South Coast (because they have a boat yard and the others don't).
- Commercial fishing industry is quite unstable. Regulation and competing for ocean uses. Working with the ocean observation and wave energy programs – and that will make an economic contribution, but there is competition there for ocean use. There is good communication between these sectors. So hopefully commercial fisheries will remain stable, it's a big contributor to the economy in Lincoln County. As well as tourism. The NOAA center – will also play a big role in growing the economy. Have a tremendous working waterfront. Federal institutions support economy. International terminal for imports/exports. Will keep economy stable without having to do build-out in upland area.
- Nothing is happening. Cannot do economic development. Have no water.

- Will have a continuation of the same – dismal climate for growth on the coast – the restrictions and things we’ve seen – have not gotten the emphasis on economic development to bring in family wage jobs.
- We have not seen any improvement. Realtor’s maybe, but shops and retail, motels, anything related to tourism and the quality of life – there is no improvement in the local area. It’s been declining here for us for 25 years. Schools reduced, family wage jobs moving out.
- See an increased demand for the products of Southern Oregon. Timber, (has stayed in business), because mills went down. Economy will be a bit more stable. Have three things in the community. Timber, Fishing, Tourism. Tourism is very small, see it small, but it has to increase a lot to get real-wage jobs like mills and fishing. See the local economy stabilizing, not growing, but stabilizing.
- Port of Astoria expansion to accommodate additional cruise ship landings and freighter stops; capitalize on proximity to Pacific Ocean; intention to compete with upriver ports. Not a lot of change - second home construction; shipping to continue to be important.
- Fairly stable on state forests, but possibly declining due to need for ESA-species protection. Federal agency land management a major wild card, but could play role in carbon sequestration and in biomass conversion to clean energy. Agriculture - much land is diked; changes expected in what development can occur behind dikes; favor agriculture; dairy to continue to be strong; development of new agriculture products.
- Some tourism growth, especially in Garibaldi.
- 1) No great change in industrial economy, 2) No expansion in agriculture and forestry, 3) Tourism industry may be only on to expand 4) Second home growth.
- Growth in small interdependent businesses, i.e. Web apps, arts, broadband - entrepreneurs 2) Forest land ownership has been aggregated into limited # of ownership 3) regulations largely prevent any action affecting estuaries.
- Newport economically was not as badly impacted because of the significant intuitional investments being made during the downturn. With the NOAA center coming on, the Port of Newport deep water terminal, the construction of a new community college and an aquarium science museum for people who want to work in the field nationally – so on the marine research side, that economic cluster will continue to grow and thrive – lots of benefits – and people who teach at Hatfield marine system, those people volunteer and teach in the schools. The schools are rated really well. This will benefit those folks in the community. Tourism will play its role. Fishing is becoming high tech and global, the fish processors are sophisticated – they are working to expand into the European market and seeking certification for a highly clean and efficient operation that the Euro market requires. The super high level of cleanliness of operation. They will continue to expand and be efficient and they will continue to be a significant presence on the waterfront. Products will change year to year – whatever the catch is – but they will continue to have a big presence in Newport and they are investing now for the future in their infrastructure. The Port has the international terminal repaired. Log exporting company want to open a facility in Newport – there is a lot of private forestry ready to be cut near Newport – fits a 15-20 year cycle running – may lead to a finished product economy, but now just raw product sent to China and other destinations. On the commercial side – over the last couple of years – the major retailers have re-tooled their facilities, Walmart and Freddy’s and Safeway all have done (or are doing) renovations. Walmart and Freddy’s have expanding. New Walgreens. Retail investments are happening in Newport – will see continued growth in the community. They are space constrained so there are many new commercial retailers that can’t find space. There is certainly growth potential there. But what has lagged is residential and that will change once economy moves and there is residential land that can be developed. They have OMSI coming in with a coastal facility – that development will start at the end of 2014 – that will be a youth camp 200 – 250 kids – 12-16 or so, teachers, 8-10 buildings – and it’s on the South Beach where the marine related research stuff is – all the different federal agencies (OSU, EPA, NOAA, etc...) that’s becoming quite the industry cluster. From Newport perspective with Urban Renewal – when will it hit rapid growth.

Also have the Pacific Marine Energy Center – 2015 – 1016 once fed permits – grid connect off shore test facility for wave energy. That site will have half dozen of test berths for wave energy technology.

- When the economy on the coast rebounds, the trends from the last couple decades will re-emerge. It will continue to be a destination for retirees – not second homes – but full-retirement.
- There were problems prior to the downturn, and a lack of transportation connectivity is one of them. Coos Bay is not on the I-5 corridor, it is difficult to get here by car or by plane.
- Another shift that is occurring and is expected to continue post-recession is the shift to tourism, but it is hard to get to Coos Bay from large metro areas.
- Recreational/sport fishing is also growing as an industry.
- Good to acquire additional lands for reservation. Tidal and sub-tidal lands leases for native oyster restoration system not designed for non-commercial uses / restoration. Ability to harvest wild fish; competition with guides, recreation fishing industry.
- The built environment is getting toward the end of its life cycle – some external factors touching on that – like sea level rise – but they were paid for with big influxes of federal money that may never appear again.
- Think that there are some big trends there. Decline of timber- challenges on the fishing industry and demographic and shifts in tourism that are changing pretty dramatically, and what the built environment can do now that those things built the built environment.
- How does the coast respond and how does it renew because it's infrastructure funding streams dried up.
- Enterprise – grow or die – but what are the new kinds of revenue and economic growth?
- In land use, we get nervous about sprawl. But economic growth is very necessary or bad things start happening. Big economic trends, what is happening with the work force and with people. Those are all very visible and measurable things that are easily tracked, even by those folks who would make an investment, but that is a concern everywhere.
- Transfer payments challenging, for social/cultural/institutional pieces as the tax base shrinks.
- Will continue to see similar trends, but abated by the recession. When the economy returns to something similar of its former self, then you will see similar trends. Continuing influx of residents to the coast of older residents, outflow of young people. That trend will continue. Better part of late 90's to beginning of recession. Reduction of natural resources as a part of the economy. Transfer payment funds far more important than natural resource based economy.
- Fewer, larger, and non-local fishing operations. The end of individual/local/marginal fishing operations - already happened to the timber industry.
- Astoria attracting cruise ships. Bandon, Coos Bay more tourism development in upper bay and waterfront development that caters to tourism; Florence - waterfront development.
- Tillamook dairy industry becoming more intensive. Bio-energy products. More service industry jobs and less production of durable goods.
- Retirement population means low tax base. Increased agriculture. Demand for irrigation. Environmental impact on watershed and down river ecosystems. High speed transpacific fiber line? May promote growth of hi tech industry. Although hi tech industry tends to be risk adverse. Possibility of natural hazard. A skilled workforce is lacking in the area.
- More interest in local food production and processing.
- Continued conflicts between development and protection of natural resources.
- The coast was not hit in the same way as other areas during the recession. Oregon is 49 out of 50 on per capita expenditures for the military. Oregon was hit quickly at the low-end but as we cut back on the military, we look a lot better. The small amount we depend on the military will help us as we crawl out of the recession. Forestry – will never come back. We just don't have the 500 year old trees that we were cutting during the 60's, 70's, and 80's. So the reliance on forestry and natural resources will be less. But the reliance on Portland and high tech and that will be what drives Oregon. We have

to realize that and the state is concerned with rural areas, need to know that Portland is driving the state. Cannot replicate the past for Oregon, the future is the city. Want to revive the railroad to Coos Bay, will cost a lot and it won't do much. State lands, a lot of the old industrial sites, want to keep them going, but they aren't going to come back. It will be a new type of economy and we need to focus on what's happening in Portland. High tech, education, and rather than small town economic development is working, need to make sure the educational system stands up. State revenue study by Paul Warner takes a look at the economic zones where you can forgive the taxes. Study done by Ed Waters, these things worked in the urban areas where they would have worked anyway, but have done nothing for the rural areas. Another thing that will affect Oregon a lot, is the tax structure change in the 90's, Measure 47, allowed counties and local areas to forgive property taxes and it costs the districts very much – forgiving taxes in many areas for the wrong reasons. Will affect how we grow for the future.

- Believe the tourism economy that is the only economy poised for substantial growth on the Oregon Coast and depending on which coastal city or county, a few have already capitalized somewhat. There are probably several layers to this – one is that Oregon as a state is focusing on tourism as economic development. Obama administration looking to increase US tourism from foreigners, and Oregon looking to get more tourists as well. The Coast is over its denial about fishing, farming, and logging ever coming back. There is a socio-economic angle to this where local leaders are finally willing to pursue other ways of life. And that is tourism – tourism is that new economy and recreation falls under that.
- We have a lot of retirees, as a part of their population and as a part of their economy. That gives us a cushion in terms of people losing jobs, but the retirees don't need the jobs. The value of their investments has gone down however. They are looking at tourism, natural resources, and marine science. Focus a lot on that and growing that industry. A lot of uniting behind that goal. Trying to grow it from 4% of the economy to 8%. Have some economists looking at it now and it's the best guess that they can do but they have already a lot of jobs that can pin-point their relatedness to the industry. Did an economic impact of the relocation of NOAA, stretched the impact over 20 years.
- In the South Coast, construction is down considerably and only something like LNG will enhance that.
- For the commercial fishing and local forestry projects and the locally packaged products, we are lacking in the transportation improvements that we need air cargo and roads to make for the efficient transport of those products. Enhancement of those opportunities would be a huge asset. The utilization of the port for maritime shipping would be incredible. Been on the ropes financially for about 30 years.
- 1) Exports to Asian ports have been increasing but will likely slow down over time, 2) car shipping has picked up again.
- Central Coast – increase in marine science and education: NOAA Pacific Fleet, underwater observation investment. Tourism industry will continue to grow. Timber industry – marginal growth. Wave industry – research and development in the short term - not a huge investment long term, expensive to produce. Aquaculture is tied to regulation and mgmt. of resource. Shipping. Small ports many shut down and large ports may grow larger. Fishing is not a huge industry and will not grow.
- Continue to lag behind national trend. Primarily small businesses at the coast – continue to struggle for years to come. More reliance on social services – due to fixed incomes of coastal populations. More expendable income from tourist/retirees. Increased recreation pressures on natural environment.
- Increasingly tourism based with some energy development. Coast is not terribly self-sufficient.
- Probably get a resurgence in tourism and climate change refugees. And also the retirement population and the coast is very attractive – get an increasing amount of people moving to the coast puts stress on the infrastructure. Critical infrastructure includes connectors from inland to the valleys.
- Alternative energy industries growth.

- 1) No bright, new, shining industrials on the horizon, 2) Research and development at Newport
- More designation resorts. Continued focus on sustainable fishing practices both onshore and offshore. May see a shift to “value added development”. Increased marketing of products locally.
- It seems like it will be bolstered. Small business took a big hit, and many places couldn’t stay open. Housing is expensive in the area. It’s hard to get a job, property taxes are super low, but housing is super expensive. Things could balance out. Port needs help, not getting dredged, so folks have lost their jobs there as well. Lots of people have moved, or moved to bigger ports. Smaller communities are struggling.
- Slow growth in housing sector. Commercial fishing will remain steady. Recreational fishing will grow.
- Ocean acidification will affect the fishing industry in big ways. In terms of climate change would expect species changes with the warming of oceans (or cooling, in other areas). If oceans rise – not such a huge problem because of the rocky coast except for Lincoln City and/or Seaside. Of course if a subduction zone earthquake hits, that will wreck the economy. Bring economic development as in R&D to the coast, new supply chains to support the Research and Development industry. Fishing industry is buying new ships for marine energy. Evidence to suggest net positive economic effects. Bring some degree of independence on the coast.
- Over the next 20-30 years – don’t see much – to be honest. As we emerge from the great recession – will be increased economic activity in a general manner, more tourism, restaurants and hotels. But not a major fundamental change in the economies of the coast, in part because of coastal communities inability to adapt to change. Except for Newport – which is a progressive community looking toward the future and working to use its natural environment as an advantage. The big communities – Newport, Astoria, and Coos Bay, they actually have something going on beside fishing, tourism and retirees. Most of the coast money coming from retirees. Coos Bay will become increasingly dominated by heavy industrial extractive resource use, and there is still a lack of infrastructure around the coast to accommodate newer economies (not enough power out there), can’t really accommodate any new energy intensive industries. The changes will be fairly limited – will have a tough time with their economies, of their own making.
- Real estate has shown a pattern of change over the past several decades – coastal migration – lot of growth in Coastal areas in California and Washington. Fisheries, sustainable fisheries, can they continue to be a driver for communities on the Oregon Coast? Port Orford, community based management of fisheries resources.
- The great recession recently slowed Oregon’s growth for several years, but there are signs of change. What changes in our coastal economies do you foresee? Think we have driven the point to need to look forward and diversify industry. It has also created a population which is “hunkering down” to protect extractive industries. There will continue to be conflict and tourism has not hit its stride yet. For example in Tillamook County, people come for the beach but they have not capitalized on the tourism factor. You will see this develop over time along the coast. You will also see green energy and “green” everything taking precedent. Talking about green infrastructure – ports – a whole area that has not yet been established.
- Assuming that there will be increasing recreational development, second homes market, and tourism. Within that, will see some small but increasingly important and new sectors, things like bird watching, paddle boarding, kayaking, ultra-light flying overhead. See these things happening a lot on the coast – it’s an evolution of recreation itself. In the 50s and 60s, it was a little aluminum boat and going out fishing – today it is a lot more high tech. See regular surfing classes, also tai chi classes on the beach. One other thing that will make a big change in the economy over the next years is new Asian markets for fish and timber and agricultural products. The key example of that is crabbing. It used to be that the technology was such that crabs were sold locally and you couldn’t afford to ship them in the amount of time. But now they are doing direct airplane shipping to Asia.

How will such changes affect estuaries and shorelands?

- The regulations and process today will limit any negative effects on the estuaries and shorelands. The people in Newport want to protect the Bay and the Estuary, to leave it in better shape than they started with it.
- Good supply of estuary and shoreland areas through the Douglas County area. Uses are pretty specific to what can be allowed. No growth or industry pushing on it. But designations need to be freed up, reducing the need to go through environmental organizations like DSL, USFW, so that the actual uses are less restricted to allow the coasts to reach quickly to opportunities, if a bird in hand need to move quickly.
- If and when the economy changes, there are so many restrictions on the development of those areas – it will delay any development. As the economy improves, they still need to deal with restrictions and user groups. So when the economy improves, can't build, still a long process, and you may or may not prevail - make the investment, and then no result.
- Think the thing that could affect estuaries and shorelands the most is additional human activity. Having people direct the impact in estuaries. Don't see that getting anything but better. Port established as a clean marina – taken lots of steps to clean things up. Additional human impact could be detrimental.
- Shore lands - natural hazards and episodic events (e.g. tsunamis) affect what can be done - planning for transmission lines and transportation corridors that make sense. Estuaries - potential for industrial development - inter-modal industrial development - what development can occur in environmentally sensitive manner and responds to availability of workforce. Will be difficult to cite industrial development needing mixing zones due to social values and ESA. Challenge - jobs without additional environmental stress to estuaries. Potential growth in environmental clean-up - Coos Bay and Newport to be continued to be maintained as deep water ports, but will be increasingly different to fund dredging of other harbors.
- Garibaldi has large potential for expansion but in tsunami inundation zone. Issue of small ports competing with larger ports
- Land use needs to be more flexible to be responsive to opportunities to accommodate the growth that's inevitable. Rural lands so locked down that pressure created on estuaries and shorelines.
- At Hatfield Center right now, they are losing land because of the change in the prevailing estuary current. It's eroding and they've lost a portion of the estuary trail and it's now in about 10 feet of their sea water intake facility that the EPA built. Large concrete structure with all the sea water circulation for the campus. The estuary has its impacts on near shore development, and in this area they may have to do serious rip rap type work, or relocate structures. Will continue to see a fair amount of development adjacent to the estuary and that has its impacts. This is a very developed bay, and much of it is under development designation. Economic – will see more dredging –channel has to be maintained – if you have more frequent dredging, the clams and other species will be less capable to repopulate. Much of the estuary will remain native and is part of the Hatfield campus and OSU and it unimpacted mostly – no desire to change it – not much impact there. Climate change to a major degree will be the impact on the estuary.
- The less people, the less impact. If there continue to be no new jobs that are water dependent, the natural processes will take over– less dredging will mean shallower channels and the bay will start to fill in (the Coos River and its tributaries wash sediments into the bay). Right now in the ship channel on low tide you can see more land than water in the bay. Thus, there will be fewer estuaries because of filling from sediment.
- If LNG goes in, we will have to dredge and that would affect the estuary. Dredging to keep Coos Bay's Port open is very important. Still have Georgia Pacific making lumber and the boat comes in. Will have to make it wider and deeper for LNG, which will impact shoreland on the North Spit. With increase in tourism – people putting their boats in, people fishing off of the bank will affect estuaries and shorelands. Need to have the facilities available to keep things “right” – there are a lot

of invasive species, and there is a fee to put a kayak in the water – but there is not an area to wash off invasive species before going in the water. Facilities need to be available. As people come in, things get destroyed and that's sad.

- Development pressures are of concern, e.g. second homes, increased tourism's effects on resources - effects on access to harvest areas.
- Retreat from where things are now. Because of an economic push – this area for a number of reasons is no longer viable – and you have a retreat. What does winding down a built environment look like? What does renewal of this area look like? What you leaving and where are you going.
- Think that a lot of people like the environment and will be more protective of estuaries. Looking for more ecologically protective and provide recreational opportunities. Lot of them also want to live on the shorelines and there will be pressure for new development. Will want to be near and also protect what they are near.
- Further development pressures in estuaries (flat developable land). Negative environmental change such as rising sea level, smell due to nutrient over-enrichment will deter population growth and even result in population decline.
- More demand for development in hazardous and/or environmental sensitive areas.
- Agriculture will place demands on water and may have negative consequences on the environment due to over abundance of nutrients and runoff. Tourism will place demands on waterfront activities which may cause development in areas that should not be developed (hardening of shoreline & population in natural hazard area).
- Increase in demand for industrial land.
- New economy will mean people with money in Portland will buy second homes on the Coast. And they will travel to the Coast and see what it can give them. Seafood from Oregon, people with money buy expensive wine. Need to tie Coastal areas in to what drives Oregon, and that is Portland. Need to stop trying to revive the old industries. There is very little opportunity for development. Very few estuaries, and some of those estuaries are in trouble. Trying to sustain salmon runs, and people are very unrealistic about what we have on the Coast. The Department of State Lands needs to get some decent economists to work with them. Not someone that tells them what they want to hear.
- A substantial increase in tourism could degrade the natural environment if infrastructure and facilities are not put in place to facilitate the activities of visitors.
- There will be development of infrastructure for ocean observing equipment, with the observatory – and that equipment goes from sea to land. Some impact there. Same with the wave energy test site – buried cable to shore. For the estuaries – being on a dredging schedule that is federally funded – so a concern about the federal budget. On Port property, will continue to be infrastructure being completed eg. deep water dock. Currently a brownfield and will actually improve.
- If LNG goes in, they won't be allowed to impact estuaries and shorelands. Obviously, if their economy is better, then quality of life is better. People will be able to protect the environment.
- Budget decisions – how to allocate limited financial resources.
- Ability to maintain jetties and dredges in uncertain finances.
- Probably have more development, everyone wants to be near the water, and they think they are protected behind ocean barriers, but we know that with the storm surges occur – heightened run-off means flooding, which will be in development areas. Public ends up subsidizing.
- Stronger the market – the stronger the regulations.
- Think it would be positive. Have several funds dedicated to watershed work, conservation projects. Some of that money has dried up, but hopes it will come back because that money is important for their communities. Money which gets pumped in here, stays in Curry County eg for the Soil and Water Conservation District. Hope that this funding stays in on-the-ground programs because that is also the bread and butter.
- Development pressures will lead to increased erosion, worse flooding, habitat loss.

How do you think this will vary for different portions of the Coast?

- Central / South Central coast area – look over the past 30 years, this region has never really recovered from the downturn of the 1980s. We have high unemployment, a growing lack of revenue for our public agencies. Unless we do something significant, we won't have a population making a median wage that can support these communities. There are marked differences between tourism on North Coast and South Coast. North Coast close to Portland, Salem, Eugene. South Coast is isolated, 2 hours from Eugene /Springfield. People don't go to Coos Bay, which is only half an hour further than Reedsport. South Coast - Medford doesn't look at Coos County as their playground, goes further south. Starting to see more coming up to the Coos County area because there is more variety - state parks, estuary reserves, Shore Acres Botanical Gardens. From a tourism standpoint, more going on here, and further south it's more recreational fishing opportunities.
- The areas that need concentrated efforts to not harm or over-build are the areas with the most activities. Ports like Newport and Coos Bay, with lots of industry and commerce, are the most vulnerable. Smaller estuaries, which are tourism related, not seeing as much growth, like Astoria and Brookings. Don't have the potential to grow in the same manner like Coos Bay and Newport. Threats will be minimal – but challenges will occur in maintenance to keep the ports viable, as they are the key economic engines for those communities. Doesn't matter if small recreational port or a large active waterfront. Don't see a bit threat for the Oregon Coast so long as people work towards sustainability and don't over-build in their areas. Believe checks and balances are already there today.
- Think that all these things are potentially impacted detrimentally by the amount of available resources to ensure estuary safety. Difficult in South Coast if they don't have money. But if grant money dries up – if it's underfunded – it results in less enforcement and less efficient enforcement of regulations to keep things clean and organized. Those are the potential downsides. If there are unfunded agencies who can't do their job, then it's over.
- Deep-water ports should benefit from marine research. Energy development intentionally spread out along coast.
- Levels of tourism will vary.
- Garibaldi has federal channel and jetties but federal government is not maintaining, too low a priority for Corps.
- 1) From Newport south, local revenues drying up. 2) North Coast benefits from proximity to I-5/Portland.
- Environmental impacts up and down the coast. South Coast continuing to struggle because of isolation. North Coast and Coos Bay continuing to thrive.
- In the South (i.e. Brookings, Gold Beach), the same pattern will continue. They have some access through their rivers, like the Rogue, but it's mostly tourism and sport fishing, not working jobs. In Port Orford, you will see the elimination of that Port as a hub for commercial fishing because of a lack of funding to dredge their harbor area. Because of their location, they don't have a port like most places, they have to move boats from land and then put them in water when they fish because it's such a small cove (rather than a port). They are trying to get funding to dredge from the Army Corps of Engineers. Bandon for example, has already made its choice – they are focusing on recreational and tourism/sports fishing and boating. In Charleston, there are still fisheries but they are going out of business – the crabbing industry too – there is still a market for those, but there are fewer people going into those jobs. You need permits and territory and there are fewer that want to do go through this hassle. Central Coast, i.e. Newport and Florence and Reedsport, these places are in the same category as the South Coast. It depends on what happens with industrial growth. Timber and fishing jobs are gone, and there is a small ship repair facility – but one ship to build every 5 years, 10, does not an economy make. Newport– they have NOAA money and a fleet. They are half tourism and half industry. The biggest industry around this area is tuna. Tuna might tide over until crabbing (Dungeness) if the season opens “right” that can help if you don't have a good tuna season.

- If LNG does come to the area, change will be pretty centralized here. It's too hard for folks to get here. Same for tourism – Coos Bay is hard to get reach. People don't want to go that far off the beaten path – once they do, they're not sorry, but it's extra work.
- In economics, it's all about network theory. The number of connections to valuable nodes increases your value. The places that are closest to the Portland, Eugene, and Ashland markets will fare better. The more isolated you are the harder it is to do something.
- The actual development trends are different. It's very specific to the communities. When talking about estuaries, certainly not the same on the Coos estuary as it is for the Yaquina or Tillamook. Development pressure significant to the community and the willingness to develop in different ways. Not a uniform formula. Coos – looking for industrial development, wanting to see more large vessel shipping and they want to see large facilities. Not the case in other estuaries. Smaller natural and conservation estuaries are focused on entirely different type of facilities. They are focused on recreational use of those areas.
- North and Central regions will maintain current populations due to access to urban areas. Population and economic state in the South with decline due to its remoteness and current (poor) financial state.
- Development pressure will be localized (Coos Bay, Reedsport).
- Wherever you travel in the world, Australia, Russia, Siberia, rural areas are dying. Unless we get away from the concept that we can revive every rural area and then work on regional areas, we're just going to be pumping money into these areas uselessly. One example is cranberries by Bandon. There are water problems there, but they won't acknowledge them. One of the misconceptions about the Coast is that we have plenty of water. But summers are very dry.
- It seems that the South Coast is very rural, less populated, and very rugged in nature. So, it seems like tourism oriented towards natural experiences would fit the South Coast. For the Central Coast, its fishing and logging. The Central and North Coast have better opportunity to blend the tourism economy with traditional industries, and that's why small agriculture would really fit well with the tourism economy. People can come and visit – and purchase the fish off the dock or the market, buy the jams, and etc. Even the logging and finding ways to keep wood here and create value-added products here. Key with the tourism economy is to blend with existing economies. That will look different on the North, Central, South coasts. North and part of Central Coast are more urban. Ports will have to play a very substantial role in this transition, and in fact many of the Port strategic plans have been reformulated to integrate recreation and tourism into their portfolios – particularly the small ports – Garibaldi, Umpqua, Waldport (Port of Alsea).
- Very different if you're talking about a deep water port vs. an estuary that is shallow where the uses are totally different. Port of Alsea and the mouth of the Yachats River, the economic uses are sports fishing. Alsea is used for crabbing. The type of geography really determines estuary uses. Alsea Bay sees a lot of protection that leads to the kayak business and the trails and recreational business. Lincoln City is more like a sandy beach for recreation – a Devil's Lake but not really an estuary. Lincoln City really relies on the beach.
- Have a couple of opportunities – opportunity to develop the North Spit for industry is huge, and those targeted sectors that are most important are maritime shipping, rail, bulk commodities as well as agriculture. Looking at building a food hub on the South Coast to address some agricultural issues as well as seafood and cranberries. Electronic sharing of info between producers and wholesalers and retailers and food processing folks. Want to get local products into the local food chain, including institutions. More cost effective way to connect food, but also a way to connect the dots with transportation issues that might exist to help move food out of the area and create more traded sector jobs. Growing and harvesting and processing here and shipping food out.
- Central – tourism will remain strong/grow; fishing industry will continue to evolve. North – same as central. South - renewable energy industry is a possibility
- Ports are all struggling – Yaquina Bay (bright spot), Coos Bay looking to diversify,

- Greatest development pressure in Central, than North, and then South. South Coast is more of the inactive area, less close to major metro areas. The rise of the land there is comparable with sea level rise (South). Some parts of the coast rise and fall with tectonic movement. North coast is decreasing relative to ocean level elevation.
- Need to respond to future climate change, declining infrastructure, sewage treatment (same for the entire coast).
- Loss of federal timber payments in South. Has led to disinvestment in the community.
- It will be different. South coast is going to be lagging. Just regionally speaking, they are far removed from major metropolitan areas. As much as it's a beautiful area, there is little incentive to be here. Also, it's really far from everything. 3 hours to go to Grant's Pass. Regionally and scale wise, it's hard. Central and North Coast, they've been "hit" a bit too, but it seems they are doing better than in the South Coast.
- The impact will be worst in urban areas (North/Central).
- It seems that the key factor is proximity to a large valley population, like Portland, Salem/Kaiser, Eugene/ Springfield. North Coast will see much more development pressures and the South Coast will not change much.

In which industries can we expect to see growth / decline? Why?

- Tourism, but limited in Coos County because far from major metropolitan areas. Tourism does not support year-round employment. For the Coos Bay Harbor, marine terminal development and cargo exportation. Proposed private sector development, an LNG export facility to connect to the Western US gas grid. Can create 180 well paying direct jobs, then the ancillary jobs. Will see facilities built here – FERC – some things these guys are doing to mitigate impacts, will have an emergency center set up here (like 911) some other things. Looking at export bulk facility, could be handling coal through there – doing lots of due diligence – but this is Oregon this isn't popular.
- Believe we will see growth in commerce in Newport and Coos Bay in different categories. Coos Bay has a deeper draft port than Newport. Coos Bay wants to expand to further commerce activity. Newport will be restricted to wood products and they have restrictions because of the bridge which limits the size of ships that come in. Believe will see growth in waterborne commerce for shipping and barging. Coos Bay more with their rail transportation projects. Newport growth in large fishing vessel repair and build-out (yard in Toledo to do build-out). This will attract other vessels from other areas for repair. Growth in ocean observation programs and wave energy opportunities. Tourism will stay stable – people like to come to the Coast and the working waterfront. People enjoy knowing the areas are environmentally sustained and safe. Visitors are also the biggest critics. Fishing industry stable with some growth. Recreational fishing stable (all up and down the coast).
- Local processors and canneries – if there are more restrictions on the commercial fisheries – that affects the shoreside industries that process them. Also regionally – Coos Bay – working on projects that could benefit the region – the LNG, the railroad hauling product on the line again, and American Bridge a great opportunity to expand in the future to use the rail line that they have. Also with wave energy – opportunities for welding. American Bridge – not dependant on local jobs. Lucky to have in backyard.
- Expect to see fishing industry continue to grow, as they manage to diversify and broaden their market. See regional fishing growing by doing more direct to consumer. People are willing to pay for wild caught. Majority of what is caught is not the most productive.
- Growth in wave energy (Territorial Sea Plan Part 5); tourism and expansion of existing industries. LNG likely to still be pursued.
- Sustainable, value-added seafood industry growth.
- Not much growth in major industries.
- 1) Agriculture renaissance - sustainable agriculture. 2) Rebound in fish stocks leading to fisheries growth - Oregon fisheries – YouTube. 3) Rebound in second home growth.

- Growth will continue to happen in marine technology research, climate change. It's going to continue to grow on the commerce side with the deep water terminal. Tourism and fisheries growth will be slow. And then the regional center of commerce will grow but modestly. Population forecasts, pretty conservative, 20 year forecast going from 10,000 to 12,500 people. Don't have the boutique agriculture.
- A decline in fisheries. If the stars align, in this region of the South Coast, if the Jordan Cove energy project goes in, you will see an increase in the amount of ancillary jobs. There is talk of businesses needing another shipping berth. If this occurs, you will see more waterborne activity. Timber will stay the same more or less. The best scenario is if LNG comes in; sea wind energy will not produce many jobs. Perhaps with the rail, there is opportunity for more shipping and receiving (right now it is only one way, just timber for exports.) Could do value-added, the ship inland to U.S. markets (also foreign exports).
- Coos Bay does not have a lot of industry. If LNG comes in, that will affect housing and commercial development. One developer is looking at a phased project for 500 homes. It doesn't affect the estuary but it is tied to the LNG development. Mining comes and goes every 10 years, they are currently shut down. In the past year, logs from private lots have been shipped because the price is high. Those logs are going to China. Those logs should be processed here to create more jobs. Would love to see a passenger train. Folks would love to beat the heat in Eugene during the weekend.
- Institutions – hospitals and health care – will see some growth, because the coast is trending that way – and the transfer payment dilemma – those kinds of employment will grow. Jobs that depend on the old economic model will decline – timber has gone through the decline – but commercial fishing on the decline. For tourism, the model is baby boomers and cars and RVs and that's going away. The other big opportunity is that it is a desirable location – and you think of the greater economy and being connecting – we're on the rim of Asia – so there is potential there and maybe reasons to go / not go after it.
- Past trends will continue. Forest products exported out, depends on forest regulation. Ag will stay the same. Fishing will probably be steady in its footprint on the ocean and estuaries. Not anything particularly new. Some new industrial uses. There are some constraints to new development on the Coast.
- Due to the aging population and relatively poor/undereducated population, the following industries will decline: healthcare services; personal business services; elderly care services; fishing industry; forestry industry; tourism; growth; education; youth and nonwhite population (due to low wage jobs).
- Commercial fisheries in decline.
- 1) Timber will continue, but not at historic levels. 2) Tourism (Coos Bay due to Bandon Dunes influence) 3) agriculture. Concentrated in a few areas.
- Local agriculture industry will grow. Fishing industry heavily dependent on resource mgmt. – it could grow or decline. Timber industry will grow – resource is managed properly. Alternative energy industry will grow. Dairy industry will grow more intensive – may move towards bio-energy production.
- Local agriculture will grow. Tourism will grow. Services to support an aging population will grow. Hi tech or industry requiring a skilled workforce will not grow. Poverty, under educated population, limited workforce/population. Disconnected from urban centers (Eugene/Portland).
- Retail industry is growing (i.e. pharmacies) & auto parts (less disposable income–servicing own vehicles). Metals are cyclical but demanded for ship building. No growth in aquaculture. Growth in tourism. Decline in hunting/fishing licenses (recreation). Growth in the alternative energy industry. Increase in local food production and processing.
- We still have a desirable place to live for most people. Because of the internet and tech and the ability to work remotely, remote working will expand. That is how we can use a communication system to support what's going on in the urban areas. That's the area where we can have some expansion. But

not to rely on the extractive resource industry. Need to make sure the education system works – can be done with communication – internet – and so on.

- Tourism will continue to grow. That is a demographic impact with the retirement sector of the economy. For now it's second home-owners. Tourism will go up and down along with the State of Oregon economy. Retirement, ocean-observing. As far as commercial fishing, difficult to predict growth or decline because the catch is regulated according to ecological factors. Commercial fishing bobbles up and down according to catch limits on species. Have seen the fishing season diversify its targets and this is how they have been able to shield their income. Would see that be a steady industry, but the jobs will be fewer, but with bigger catches and bigger incomes, but less jobs. Have it be the "right" catch (not damaging to the environment). With wood products, that won't ever come back. The only hope there is value-added wood products. Movement toward community forestry to add value. Value-added seafood jobs and value and income to the coast. At the end of five years we could see change in the value added pieces of natural resources industries.
- So much depends on Congress. With the federal timber restrictions, if they would allow more timber harvest on federal lands, timber would be a huge industry here. Failing that, we can't keep afloat in southern and south central Oregon counties. Without being able to access federal timber grounds. The O&C lands are drying up and going away.
- 1) Coal exports if it occurs, 2) blue collar jobs continuing to decline.
- Timber, depending on resolution of environmental issues.
- Stable but modest growth in timber; strong dairy industry in North Coast.
- Think there are some boutique agriculture and fishing that will continue to grow – not astronomically, but slowly – for people who want special oysters, or cranberries grown in Oregon. Sea urchins become a delicacy. Timber will always be there, nothing like the past – but reaching a critical mass in public private lands, and need to do biomass generation, and need for thinning.
- Growth in wind/wave energy but questions if local area can capture benefits. Potential growth in LNG and coal exports. NOAA fleet – research and development opportunity. Timber industry will stay steady. Growth in the education field urbanized areas closest to Eugene. Renewal of fishing and fish processing industry.
- 1) Research and development at Newport. 2) service sector growth associated with tourism. 3) non-consumption recreation growth. 4) Health care industry. 5) Traditional industry's challenges to maintain rules of commercial fishing in bigger ports.
- Steady growth in fishing industry (sustainable practices). Decreased growth in the timber industry (loss of federal investment). Second home/retirement home growth.
- Growth-wise, could see more of an eco thing. Have hikers and rafters, but people could pick up on eco-tourism year round. Not just the summer. Decline – see fishing declining if the ports can't be helped. Keeping fisheries in on regulations and conversations. Lumber – decline. Forest service still doing thinning, but not much. Only one mill on the South Coast.
- Commercial fishing is very dependent on resource management. Increase in development of second homes.
- I would not be surprised to see a change in manufacturing. Will see a change in the U.S. in general. Like American Bridge, infrastructure companies might see growth.
- Recreational development and second homes to grow. Some of the fisheries will grow, maybe crabbing, maybe salmon. Maybe growth in alternative energy and the science/tech industry, the entrepreneurs and government doing stuff with marine science – like NOAA moving its headquarters to Newport. See decline coming in the traditional forestry and agriculture sectors – the extractive industries. They may have bottomed out though. See some growth, it will be in the micro sectors of the economy – services related to property management – will be businesses to take care of second homes. Arts and entertainment, as you develop casinos and hotels. Also an increase in telecommuting (software developers / web designers, etc.)

What are the greatest challenges to economic growth on the coast?

- Challenges are being on the Oregon coast – southern Oregon. Challenge is transportation. Substandard airports. No prospect for a better airport. Not enough flat ground here to do that. Access to the I-5 corridor via one of the world's worst roads. Transportation is an issue here. Would help the area is to revive the ability to do shipping from the local ports. Brookings has an old barge slip. With the cost of diesel, makes sense ship via a barge rather than with trucks. But most of those barge slips and activities have been squashed with the move to trucking. But if you get that back in – could ship lumber and aggregate, and could literally load up a barge of rip rap to send to San Francisco. Limitations with manufacturing, but the Coos Bay rail could help in Brookings. Shipping and transportation is a real problem.
- Log exports may decline in terms of importance. Infrastructure aging / lack of investment; distance from major markets and key transportation corridors; lack of access by air.
- Hazards affecting coastal development - earthquakes / tsunamis - threats may be chilling effect on development. Basic infrastructure limits, e.g. lack of air service, rail service. Transmission line corridors are a big deal.
- Distance to I-5 corridor.
- Land use - ability to find developable land that doesn't infringe on resource lands
- 1) Lack of investment in infrastructure and education. 2) Promoting economy and social ties between I-5 corridor and coast. 3) Lack of large available tracts for development. 4) Work force housing.
- Transportation is a big one. Still somewhat isolated – the project to straighten US 20 is super difficult – several years late – several hundred million dollars over budget so far. Slopes moving in the Coast Range. Bridge structures no longer plumb and having to tear that out and do fill. Transportation is a challenge and it's an issue for companies looking to move to the coast because that is an additional cost. That is the biggest. The other is the cost of living here and its impact on the workforce. Lots come up from Waldport or Seal Rock, Toledo or Siletz to come to work. When talking about fuel prices climbing, it's hard. This is pressure on the tourist industry, same with fish processors because they can't offer same. Land is the other one – not a lot of developable land – land is very expensive to develop here. This is an impediment to business that would like to come, retail and industrial.
- Regulations and the aging retiree demographics. Retirees don't want change, don't want a working waterfront but a scenic waterfront. Regulations take too parochial a view and miss the balance.
- Transportation connectivity and access to Coos Bay from areas inland.
- Limited mechanisms for building skills - distances from urban centers, low graduation rates, lack of value in education. Limited transportation options.
- Small-scale port development is not sustainable. Wheeler will never be an economic port; should not have been designated shallow port estuary.
- Working in and around water is expensive, challenging, many public/private partnerships.
- Access and connection can easily be severed by any number of natural hazards. Circular nature of the economy – hard to find long-term industry.
- Lack of infrastructure/connectivity. Limited population. Lacks a skilled workforce. Risk due to natural geological event(s) deter long term investment.
- Workforce is retiring. Replace workers are not currently living in the area. Low wage jobs/high housing cost.
- Don't put your money where you won't get any return. Spend money on education and training where it might have effect. Job Corps centers and things like that have a great return. And vocational schools, but need to get away from car body repair and be able to read computer printouts.
- 1) Lack of infrastructure; maintenance of existing. 2) Lack of higher education.
- Inability to maintain infrastructure connection to support small ports. Dredging and jetties.

- All the property that could easily be developed has been. The development options that are left are questionable due to geologic concerns. Condition of infrastructure is poor - Highway capacity and connection options are limited; limitation of air travel; low education levels – poor local workforce.
- Maintain infrastructure to support existing and future growth, decline in resources, being slowly reversed, future of dredging in is uncertain.
- Distance to market. Local traditions; resistance to innovation. Little connection to higher education and large world outside of Newport and Astoria. Isolation especially for South Coast.
- Infrastructure stabilization. Think on the coast a lot of the infrastructure will be threatened, flooding as well as erosion, wave action, slope failure. Inadequate funds to address it.
- Lack of integrated planning – current planning is more of a piecemeal approach. Infrastructure.
- Educated workforce, affordable housing.
- Lack of investment.
- For the South Coast, scale and regional location / distance from markets. Taxes too.
- Workforce education and skill level is low
- Hard to find professionals and businesses to relocate to the coast region. Perceived distance from infrastructure, i.e. large company wants to come to Oregon – wants to be near supply chains and infrastructure and transportation lines. Tough to overcome for getting businesses to relocate here. You go to Reedsport and there is one recognizable hotel – so that becomes hard to wrap your head around as an outsider. That might be one of the barriers.
- It's difficult to envision transportation routes being different in 20-30 years –so that dictates what can and cannot come to the coast. The road system is probably one of the biggest obstacles to bringing other industries to the coast. There are airports, but they won't bring in really big cargo planes which are just shipping materials. The transportation lines are probably the biggest obstacle for growth on the coast. That and other infrastructure that comes with development, i.e. internet (took forever to get off dial-up) so just getting the coast up to the level up to the level of industries in other places. Also the cost to live on the coast is high. Even through the recession – the houses were over-priced for the median income in the area is allowing. What kinds of jobs are being brought in, and what workforce can be cultivated rather than shipped in externally.
- Biggest challenge, how to pay for the infrastructure. If the coast is going to continue to grow in the areas of tourism and recreation, the bridges and roads, it's going to be a burden and problematic. Local government and feds are all cut back.

Are there other economic issues we should be aware of?

- One of the challenges each coastal community has, is the permitting process. When opportunities come up, you have to be able to respond in a timely manner. Oregon does not have a process to do that. Gov is looking now, what can we do to make the process easier for industry to respond to opportunity. When in the coastal zone, estuaries, and we're aware about what we have to do, but when we go to public comment, you'd think that some of these agencies would just want the places to "go back to nature".
- Financial stress on southern Oregon counties; more financial resilience as you move north. Bullish attitude on North Coast, business-as-usual in Central Coast; and real frustration on South Coast but some interesting and innovative recon. Enterprises; creativity in face of adversity.
- Maintenance of dredging the bay is critical. Coos Bay is the second largest port on the Oregon coast, but you would never know it. If anything were to happen up north, or if there were some kind of natural disaster, you would have to count on another bay.
- The theme of connectedness is driving a lot of the other things. Who and how are they connected.
- Increase regionalism trends -more local agriculture businesses, self sufficiency, post peak oil notions of staying in place.
- Economic assessments of strengths / weakness of coastal communities are needed.
- Cost of living vs. income mismatched.

- None.
- Business development on coast is already regulation dense.
- More federal and state regulations will require better coordination.
- Capturing destination spending and blending it with traditional industries to ensure that money stays local. From coast perspective – one thing to have operators coming from out of state or inland and then leaving – and a different scenario to have the resources and the infrastructure to support tourism operators and businesses – so for a Port, like Garibaldi, to be able to retool its docks to support a marketplace would give a tremendous economic boom to the community. People coming in and visiting the markets – but also turning new tourists into new customers. Salmonberry Trail – Tillamook hurricane 2007, washed out. But right now – building a 95 mile multi-modal trail through the coastal mountain range from Banks to Garibaldi to the Coast of Tillamook. This is going to be a crown jewel. Cycle Oregon has already put \$100,000 on the table for this. Feasibility study is already done. State parks. Master development plan will be about \$200,000. Will be a biking and hiking trail – Rails and Trails, so they hope to preserve the rail line and the Oregon Coast scenic railroad – hoping to creep back into the coast range. It's the only trail in Oregon that will avoid infrastructure. Want to go and hike it, to see the unused rail line. Half a dozen tunnels through the mountains, and tressels. Example of a marketable attraction.
- Tourism is a low-wage profession. This creates a lot of low-income jobs. Creates a problem of transience in school system, also a lack of benefits, so health care is stressed. So here are stress factors that contribute to poverty and drop-out rates and health issues. Lack of living wage jobs in this industry. Hard to have as much tourism as they could comfortably handle. People's discretionary spending decreased with the downturn, so that industry was hit. And also the price of fuel rose and so this impacted coast economies as well. Have an electric car charging station in all the towns along the coast. Toledo has one – the mayors and local city governments are taking advantage of electric car charging. The coast is ahead of a lot of other areas.
- General discharge permit changes are more restrictive and will have an impact on growth. Poor groundwater. Difficult to build reservoirs. Restrictive on long term growth. Income lower. Social issues higher. Harder hit by recession (rural area). Tourism industry is seasonal. Has an impact on education. Tax base is low. Increased demand for social services.
- Hidden sources of capital. Where are they and how do you tap into them?
- Much economic impact will depend on resiliency. Coastal system not very competitive generally speaking vis-à-vis national system.
- Awkward acceptance of decline of personal income.
- Need to adapt to changes in land use – historic industrial ports now areas in demand for waterfront recreation, open space, etc.
- Should focus on local economy - keep the employment local, e.g., manufacturing of wave energy buoys
- Opportunity to get ahead of climate change impacts. Can pull back from the coast and develop/redevelop sensibility.
- The energy piece for sure – the lack of energy infrastructure on the coast, and the lack of transmission capacity as well as grid connectivity are the limitations to any real change coming to the coast, or addition of opportunities that they may have. They couldn't do anything majorly different in these communities if they wanted to. Can't get 21st century jobs to the coast because of reliable energy. Tried with wave energy – don't even see their own future with it. Don't need new energy, but think about 20 years from now and just because the system was built before they got there, assumption that it is adequate and will always be there. That will be a major challenge. Transportation a major encumbrance for coastal economic development. Lack of rail, lack of air, and lack of connectivity between Hwy 101 and I-5 there are challenges getting to and from the coast. That will be a continued encumbrance on the coast. Some industries are growing, some not. Fishing industry

will stay about the same and there is nowhere for it to grow, in short, and it will shrink a little bit. And if warming and acidification trends continue in the ocean, that will impact fishing industry.

- There has been a lot of talk in the national press – the increasingly wide gap between have’s and have-not’s. This is amplified on the coast. There is a pronounced two-tier economy. There are the affluent folks that are there for tourism and recreation and/or second-home or retired on the coast. They are well-off financially, and on the second-tier in the service sectors and are not able to earn enough for a family. Don’t pay as well as the timber harvests. Will be a big issue in years to come. Will see a lot more redevelopment on the coast.

3. Demographics

What types of changes in the numbers and composition of Oregon's coast population can we expect?

- Community shifting from middle income blue-collar to a retiree / transfer income population. One of the interesting things, if you took South Coast from Brookings to Florence – people would move into the area, age 55 and up, and as they aged they also started looking at, where are the medical services and services we need. And seeing an entrance into Coos Bay area because they have the hospital that’s bigger. Same thing with retail trade, you can find stores in all the communities, but you can’t find a Freddie’s / Macy’s in places other than Coos Bay. People now wondering where they can live to fulfill their basic needs. There are more and more people who want to live on the coast. Can’t predict how much growth. Communities are attracting more retired people. Looking for affordable communities. Most of the Oregon Coast is affordable. Especially for those who would like to live by the ocean. More interest in the arts. People want to still have the amenities of their previous residences in a small town atmosphere. There is opportunity for growth in that type of industry. Inclusive of pretty much everything.
- More retired people. Schools declining. No jobs.
- Big disparity between the different wage levels. Have lost the family wage population in the community. We have retirees and low-income. And disproportionately fewer middle income earners. So we have low income housing projects and the retired population and lost the main-stay working class. And the school numbers are dropping. Medical community here is important because of the number of retirees – have a local hospital, but they always struggle to find quality physicians and retain them, it’s always a challenge and that is not unique to them. But as the population ages, they look for a community that can provide medical assistance.
- Population will grow – infrastructure and so forth in southern Oregon. Possibly shrinking. Manufacturing isn’t going to get bigger job-wise. Mostly retired people. But don’t have the infrastructure to support them. Not much population concentrated on the coast.
- Increased number of retirees; otherwise not much change in population growth and demographics. No major population shifts.
- Continued aging, more so to the north. Over long term, population growth if there are employment prospects. Fairly stable at this time.
- Greying of population; influx of Hispanics.
- Increasing retirement component of Coastal population or rural coastal lifestyle. 2) largest income source is transfer payments.
- 1) Entrepreneurial class growing. 2) Retiree class changing - less conservative, with baby boomers retiring.
- We’re struggling with the retirement thing – the community is older because its nice to retire here. It’s hard to attract qualified workers at a younger age. Hard to compete with Portland for example. That will continue to be a challenge. The trend will continue to be older. Harder to retain. On the younger side – have a diverse school age population, Hispanic population growing considerably. The Latino families working in lower-income fishery industries. Have funding challenges with this plus

the elderly, not enough tax base to fund the schools. To date – doing well – have implemented a bond measure – but the trend lines not too promising.

- Graying population on the coast – folks are getting older. There is a rise to support the service industry, health care, but educational services are declining. Schools here are half of what they were in the 1970s and 1980s. That trend seems to continue to be trending downward.
- Influx of professionals into Newport area. Florence, south of Bandon = immigration of retirees and Californians - slowed with recession.
- Most important thing – what happens to high school graduates from the coast. Tim Dewey at the U of O, gave a talk about the marriage market – they have to leave little places to meet someone, but then they have to decide to move back home or not, and it has to be viable. If there were a longitudinal study – are they able to stay – are they able to come back with skills and family?? Key issue.
- The base population will stay relatively the same. Racial composition will change - population of nonwhite will increase due to lower wage jobs. Aging population will move back to urban area for health care reasons.
- Diversity of population change associated with change from extractive industries to second homes; cost of living driving long-term residents out of housing market.
- 1) Concentrated influx of older persons (transfer payments). 2) Industrial work force has left, e.g.. sawmill workers.
- Population is aging.
- Aging population will continue to grow.
- Strong class divide between rich (retirees/second home owners) and poor (low paid tourism business owners/workers).
- Aging population trends will increase.
- Youth will continue to move to more urban areas for social and professional reasons.
- General population will be older – more retirees. Early retirees at (55 or so) come to the coast, live there about 10 years, and then move back. Early retirees have money, and that is one of the things to emphasize more – who are those retirees are, what can they offer, what they need, and probably we don't need to spend very much on the older retirees who go back to urban areas (for better care, and etc). We don't know much about early retirees.
- Population has grown really slowly. Have lot of influx and outflow, but not a net gain. Maybe with the upcoming boomer retirement, steeper growth next 10 years because of in-migration. Just look at birth minus death – death wins. Balance the death rate with in-migration.
- Unless we're allowed to develop through the permitting process with federal assistance, they will have more of the same. People born and raised here will leave to find family wage jobs, and what they have here is a great disparity. Where the middle class is lean-enough, but add to that a lack of age diversity. A lot of older-retired folks that made money elsewhere, and then the very young, not old enough to leave, but don't have young families that are middle class or better and doing well and faring well and able to survive and prosper here. If that doesn't change, if we cannot create jobs and wealth on the coast through every industry that we can, we'll have in the next 10 years is a real leadership gap. Don't have the 40-50 year olds coming through the ranks to contribute in elected positions. What we have are the older folks who have done it and the younger folks who don't have the depth of education or experience to lead. The enhancement of the economic environment here, have to find rationally with the feds and state, to marry the protection of the environment with the need for family wage jobs at all levels. Failing that you will have a coast that is heavily dependent on a population that is extremely polarized in interests and education and age.
- Aging population – retirement will continue. Can't keep young, educated due to low wages and limited opportunities. Overall population increase

- Aging population is continuing to grow as more people retire to the coast. There are and will be pockets of younger population. However, limited by low quality school and work options. Increasing ethnic population (Latino).
- Will not capture that many of climate refugees because of lack of employment activities.
- Creeping aging of coast; no specific concentrations of growth; incremental growth.
- Increase in retirees. Median age will continue to rise. Think the birth rate is at or below the replacement level in some parts of the coast.
- General decline of people in their wage earning years - older populations, aging in place, retirees. Decrease in families with children.
- 1) Brain drain, declining school enrollment. 2) Concentration of growth in portions of coast with better access to inland areas and in areas with quality of life. 3) Cultural, political, economic implications depending on where folks are coming from and age levels. 4) Aging of population = shrinking workforce.
- Population will continue to grow older – coast will continue to attract retirees.
- Major retirement home area, lots of older folks. Lots of short-timers, they are the young people. (Can't survive here, Curry County can be a hard place to live.) City of Gold Beach is built on seasonal jobs. Come here in the summer / four-month gig. Some try to stay as long as they can, then they leave. Some people are here two years, and then move closer to a city/family/something else.
- Graying population.
- If looking 20-30 years and marine energy is on the coast – 1,000 new jobs with their families (so 4,000 new people with a family of four.) In a variety of areas including manufacturing, R and D, vessel support.
- Would like to think that as the educational system on the coast continues to develop and improve (higher education) and you get more educated young people and you may see some creativity out there – folks starting small businesses and entrepreneurship. Won't just be manual labor and blue collar industries – which are dead ends and continue to result in population moving away from the coast (young people leaving) that is a potential bright side of this in terms of demographics. Another point – migration – more of the same folks moving out to the coast without the flexible skills that allow them to take higher paying jobs.
- The older population will continue to grow. The coast will continue to attract retirees. There is an age as well where it tips and people move away back to bigger cities with better health care options. Unless additional industries do find a place – there will be young folks in extractive or low-wage jobs, and then the “settled and moneyed” population who is driving up the home values who are a larger population impact. The closer you are to a metro area like Portland, Salem, Eugene, might be able to have more opportunity – as long as the schools are stabilized, but otherwise the coast will get older and older.
- Aging population – two-tier economy – when you have a largely elderly and retired sector of the population they tend to not be very enthusiastic about increased taxes for schools. They are not as supportive of local tax measures as people who have lived there all their lives and how they are working there all their lives. Old families and the newbie's.

What social changes can we expect as a result?

- Major impact to the city budget. Infrastructure will suffer – infrastructure that supports ocean activities, and apply that to other infrastructure, roads, public works. For example, Salmon Harbor is one of the largest on the coast, employs a lot of people, takes care of many pieces – seeing compression now in the budget and looking at different ways of doing budget. We are seeing the disposable income decline. So a public facility like theirs that runs on no tax support (for past 10 years) and now expenses are starting to surpass revenues and will need to make reductions in facilities, and if that decline continues, a burden onto the county and the port. What happens then? Losing the services? Will be closing the wood docks on the east basin. Constant reduction of slips for

24 years as well. Now we're at the point of, what type of facility will they be in 10-15 years? With the decrease of income – people won't recreate as much as they used to. A main engine here for economy/tourism, they are going to be impacted. Winchester Bay is not totally self-contained, if go east to Hwy 101, it's undeveloped forest, and so when you come in there, the whole basin is in lots of ways, dependant on the harbor, and the fishing and crabbing seasons.

- Tend to think that this will become a destination/retirement zone to a degree. But they don't have good medical services – and probably will not. Just high-end retirees. Think will have mid-level growth. People come here because it's outdoor related. So it's mostly an outdoorsy/active group of people who come here. Funny, see the retirement group from one place. Retire on the coast – from L.A. Then they started getting a bit older – having medical problems. Then they had to move away. So the same houses – the homes are owned for 3-5 years. Then they move away because they can't stay for medical reasons. Reaches a static point.
- Attitudinal changes - greater diversity, high education levels - effects attitudes to environment and higher level of sensitivity. More selective about support of growth - all growth not good.
- Significant differences with the populations that are aging; progressive vs. conservative. In general, trend toward stewardship attitude but will not be common across the coast.
- Willingness to fund libraries and jails, but not roads
- 1) Lifestyle we have here is our greatest assets. 2) Lack of work force housing.
- The hope is to maintain a diverse economy. If continue to have the marine science and the commercial fishing/longshoremen will attract enough people that can offset the growing retiree population. With that investment, the community can grow in a healthy manner. Newport reason to be optimistic about the future – outside of the residential crash.
- One of the strange demographics... what seems to be happening, in places like our region, when the economy is depressed, you end up with folks who were born and raised here moving out, but they don't sell the homestead, and they need to make payments and they create lower-income bastions and create pockets of areas of people with no jobs, and cause “social” conflicts / poor manners / education. The people that were here as long-term families, their replacements are there because it's cheaper, and they end up being “wards of the state” rather than wards of themselves – because there are no jobs here. Social consequences of folks with nothing to do. Unless there's substantial change, we'll end up with depopulated areas, except for those with nice houses/transferred income. You will have created a situation where we don't have sufficient resources to maintain infrastructure and all folks live in urban areas and the rural is only a playground. For a solution, it would be helpful if the state land use system was changed and did not concentrate development into one major metropolitan pocket and instead encouraged the enhancement of the rest of the state. Potentially use SDC's as a tool to incentivize going to the Coast or to Eastern Oregon or Southern Oregon.
- More retirees. If LNG comes in, more jobs and more family-wage jobs for more young families to bring younger people and families to Coos Bay. There are some younger people who have become interested in the downtown area and they are looking at developing a brewery downtown, another company is looking at solar panels, and another at design work. They are the younger/more aggressive and innovative people that you want to get into a downtown area. They are also the group that does the paddle boarding. There is a community college here, but as far as a lot of people staying, it's not enough. Still, not enough young people and not enough work.
- Migration from rural to urban areas. Paradigm shift to higher level of concern re environment.
- Increase in racial diversity. Greater divide between have and have-nots.
- North Coast more progressive than South Coast; anti-planning attitude in many South Coast communities, with Bandon as the exception.
- Expansion of medical facilities, community commercial.
- Existing communities will remain stable or begin to take on vary different personalities. Newport started to become more urban before the bubble burst. Aging population will require more health care and senior services. Flexibility in workplace location will lead to population growth.

- Increased demand on services that support retirees (medical) and social services (welfare, food stamps, etc.)
- Increased demand for health services. Increased demand for social services.
- Schools are going to be smaller and we need to figure out how to provide good educational programs with smaller schools. Combining more rural areas into bigger ones. Think it can be done with the internet. Need to get away from thinking that each community can provide all the services. That's the only way they will all survive. On the health care issues – we need to know/understand that a small rural clinic cannot offer much more than diagnosis and hand holding, and they need to be tied in with bigger areas. Happens with Florence and Eugene and needs to happen more. This is where the state can get involved in. But you have to work within what is feasible. State needs to have some good analysts around that they can trust.
- Coast 20 years from now will be a new coast – going to be younger, hipper and more affluent. Envision a complete demographic change. I think it's a matter of scale and proportion. If you look at the raw aggregate magnitude, it will be different, but in proportionality it will be the same. Lot of old families along the coast – family lines – and kids who want to do what their folks did – and they are coming back to farm.
- Going to see more demand for specialty health care, it is considered the biggest problem by the senior population. Have hospitals and doctors but don't have the specialists that are there every day. Feeds into the healthcare debate – payments and how does Samaritan develop an economic model for payment. The more you rely on Medicare the more the health provider is paid. Medicare viewed as a challenge.
- If we can keep or generate thirty and forty something year old families with younger kids who are actively interested engaged in the schools. The retirees, their kids and grandkids don't go to school here. They don't wrap around it as “their” issue. The social divide does not speak well in terms of being able to bridge that with the middle class, between the young with no options and the older and left alone folks. If they are able to bridge, that many social ills will be able to be solved. Having people engaged with the schools, and enhancing them. Issues: youth and unemployed – high percentage of drug usage; huge drop-out rate on the South Coast in virtually all schools. People in Metro cannot comprehend the poverty in southern and rural Oregon. South Coast area does not have the population base that speaks to the officials at the federal level. Sometimes it feels like the political correctness of Oregon stands in the way of people being able to live. People leave here for school and then can't come back. Have been renaissances like Astoria – but their infrastructure was not as far-gone as South Coast. It will ship a multitude of bulk commodities that will create jobs, wealth, and interest. Right now we don't have a hard time getting doctors, but it's hard to keep them. From business recruitment standpoint, what are the schools like. Do employees want to live there. More so than 15-20 years ago. Lifestyle is a key factor. When you're known as a meth capital, it's a tough road out. They have exceptional kids coming out of the schools. Have a lot of people, living on transfer payments. Some of the homeless came from across the country because the climate here is mild.
- Aging population will increase demand for services. Medical sector may grow.
- Increased stress on social services. Increased demand for medical facilities or populations will move closer to care facilities, i.e. Portland. Young families that are able will move to better work and education options. Ethnically diverse populations will require different services (i.e. ESL).
- Think will have increased disparity, more haves and have-nots, less middle.
- Pressures on schools – closing down. Tension between people who want Coos Bay to stay or develop into a retirement area. Community visioning needed.
- Increased demand on medical services.
- Keep hoping the paradigm shift will happen in the next 10 years. Lots of “old school” mentality here. Lots of young people fighting against that din of older mentality. New commissioners are in, the last seven years. Commissioners are younger now – and now gaining momentum, lot more collaboration

going on between community groups and government to try to tackle bigger ideas and projects. Coming more together, and see how to bring everybody up. Feel like it's happening, but will be another 10 years before the shift. If can keep the young people here, just need to get them jobs.

- Decreased investment in communities (ie. Schools).
- Not sure offhand. If you've got climate migration coming from the south – will have a shift toward a more conservative electorate. There are, interestingly enough, the elected officials of the coast are exclusively democrat (down to Curry County for a republican) with climate migration.
- NOAA is creating a new industry on the coast; could create a bit of a boom around high tech jobs doing wave energy. Could see an influx of engineers and manufacturers around wave energy devices. Could create a boost to the economy, and what effect will that have on the social. A moderating effect on the economy.
- Good examples on the coast with an aging population – they are always voting in measures for parks and schools and libraries – it could be that you get a group of folks who have those inherent values because it was important where they were (happening in Florence). Also this population brings money and the economic disparity creates a host of problems. There is very little “middle class” – you're generally at a lower end job, a higher end job, or you are retired. There is a fixed income issue for many folks and that is limiting in terms of what you can expect for them to pay for services through taxes or other means. As a result of the in-migration as well – people who are born and raised here and have very certain ideals of what should “be”. And then there are the “new” people who ask where is Wal-Mart, Home Depot, etc. (but they moved here because those things weren't here...) And even in a small place like Tillamook County – the north part of the county has a different way of looking at things rather than the south. City v. County, Town. v. Incorporated areas.
- How to create and maintain community – this is a challenge in an increasingly diverse population (not just ethnic, but also to income and age) – a polarized diversity – not a comprehensive diversity.

4. Environmental Challenges

What are the key environmental challenges we can expect?

- As far as the estuary goes, the Port was one of the first to sign on to the water association to clean up the port. We were one of the first to get on board with cleaning up the estuary. The result of that, this is the largest oyster producing estuary in Oregon – employs some people, not tons. Done a lot through organizations to benefit the health of the organization. Through cargo facility development, know they must clean.
- Too many restrictions on the water areas. Biggest one – the dredging window restrictions - Nov, Dec, Jan. The dredgers have to come down the Columbia during high seas, bad times, and the fee to come down is \$200k, and that threatens the livelihood of small ports. The Corps of Engineers can dredge when they want to dredge – so it's a big difference between what the feds can do and what locals can do. Wildlife restrictions and the costs associated. If they want to maintain the shoreland – they need a permit for that – water samples made of the sediment because of perceived environmental. If there is no change and environmental user groups continue to lobby the way they do, there will be more restrictions and they won't be able to do anything. The environmental people have lots of money behind them. This is a designated clean marina, but the regulations are so strict by the user groups that they can't fight it. And as a business, can't pass on those costs and already in a sub-par market – so only can let the marina fill up, not dredge, reduce navigation, increases the hazards. Have a Coast Guard station in the marina – they face the same issues, and are looking at downsizing. It's a domino effect, all of the pieces are inter-related. Maybe with all the restrictions, we'll have all the salmon runs return. But that's a long road too.
- Reducing carbon footprint, concerns re: climate change; changing forest practices; climate hazards.
- Global warming = more large storm events, some amount of sea level rise. Increase in debris on coast from natural events elsewhere. Ocean acidification. Chemical and organic pollution - sewage

treatment plants susceptible to hazard events. Environmental stewardship interfacing with forestry. Additional species needing protection.

- Environmental community challenges to basic industries; acidification of ocean - effects on shellfish hatcheries and naturally producing shellfish.
- 1) Protection of farmland. 2) Increasing regulations affecting management of farms.
- 1) How ports (developed areas) respond to climate change, e.g. effects on jetties - we drive up cost of maintaining jetties and dredging. 2) Regulation streamlining is a false promise.
- If LNG comes in, lots of environmental challenges.
- Anything you want to do in the estuary is an environmental challenge. It is not all bad, because there are some areas that should not be impacted but it is a political struggle.
- People are not very respectful of the environment. Locals are respectful – they see what they have, but a lot of people who come are not so respectful – and this ties back to the education.
- Population growth generally; pollution affecting natural resources; septic tank pollution of rivers; runoff of chemicals. Sewer treatment plants very outdated. Agencies such as ODFW that are dependent on licenses / fees being able to accomplish environmental agenda. Harvest - what are sustainable levels.
- Sea level change – see landforms shifting and/or collapsing or flooding. It's a volatile area. It's an area of constant change. Weather is changing as well and we don't know what will happen. It's unpredictable. Faster, slower, more dangerous.
- Related to climate change – change in hydrology, rainfall, also big challenge in invasive species. Big challenge to estuaries with invasive species and we aren't prepared to deal with it or prevent it. The climate change – acidification – could radically change everything. If it goes bad, it could affect not just the environment but economies, cascading collapsing effect.
- Increased storminess. Increased coastal erosion. Ocean chemistry change. Greater water supply shortages/demand. Increased timber wars. Fewer, larger, nonlocal fisheries.
- Ecosystem roles that estuaries play are changing - silting in of Tillamook Bay for example. Pressure for hardened structures where there is erosion.
- Moving from a past based on extraction of resources to a future where keeping natural resources healthy is essential to keeping coast strong and active 2) increasing environmental recognition.
- Climate change impacts. Increases issues around how to handle pollution flowing from upstream. Currently lack proper sewage treatment in many communities. Natural hazards & increased population growth will exasperate this issue.
- Potential for a natural hazard – tsunami, earthquake, landslides. Decreased dredging due to reduction in federal funds. Impacts on size/number of ships.
- Increased conflicts among development and environment interests.
- Climate change, generally the science is there that things will happen. We are seeing this right now in ocean changes. Changes in the climate whether short or long term, we are not very good at adjusting to those. The 60's and 70's were the best conditions we had, and we thought it would keep up forever. We need to shift our expectations. Water use and water quality – don't think we're up to par on this – we think we have lots of water – we don't. Expectations of the growth rates on timber – it's too optimistic. Costs are underestimated, growth is overestimated.
- Substantial increase in visitation and destination spending. The coastal population will increase as the economy grows. There will be more smaller businesses and less large resource extraction companies. Advent of CSFs will break down monopolies. Will see a localized and connected economy. A network of CSFs, a network of water trails, a network of port recreational hubs. Working together, but independent. Driven by the need to piggy back off of existing infrastructure using what is already there to build on that/ retrofit that / for recreational purposes. Coast is so geographically long – 363 miles long – there is no center. Individuality of communities will persist. Impact on estuaries and shorelands: If we're ahead of the curve – we can manage the impact of the tourism economy. By creating visible infrastructure, education, signage. Good example: Tillamook Water Trail. Kayak and

Guide center – Kayak Tillamook. Tillamook Estuaries Partnership decided to create the Tillamook County Water Trail and 70-80 miles of trails in five estuaries. So they have been mapping and designing water trail maps for each system. LNT ethics, etc. Why are these places sensitive, so on and so forth. Done a great job getting ahead, and these resources can be duplicated. Huge educational piece that helps to ensure to minimize on estuaries. Impact will be marine debris – cans, bottles, plastic bags, fishing gear, so much of it gets cut off each year.

- Severe storms are the bellwether that everyone notices – but in Jan/Feb 2012 had a series of terrible storms. Trees fall on power lines and knock out power. And blockage of the lifeline roads (101, and roads inland). Rely on the road network more for survival. Severe storms can be life-threatening. Loss of power is more than an inconvenience. Experience that regularly. What we used to think of once every ten years is now every other year. Awareness is pretty high, and have been attempts at DLCD to make the coastal zone erosion prone – but the real estate industry reacted strongly to that. People are literally losing real estate and changing from a cliff to a sandy beach.
- Needing to marry the environmental concerns with the economics. State operating with one set of science, the feds operating with another set of science. State business put \$12,000 into a permit process, passed by State, denied by Feds. Loss of 30 family wage jobs. Feds said no. NOAA is notorious for this. Ranchers have stood on the side of creek bed, argued about putting reeds in the water.
- Regulation adds cost. Increase in upwelling (climate change). Septic system issues.
- Climate change. Geological events.
- 1) Opportunities for restoration leading to species recovery. 2) Nothing that isn't already being faced with natural disasters.
- Tidal flooding - diking of areas could be restored. Estuary resources are reasonably well protected. Overall improvement in habitat resulting from projects over past several decades.
- Coastal erosion where development occurs. A reluctance to adapt and a lot of legal challenges in regulations of land use, ocean and shore alterations. Probably loss of property. Think the trend of flooding and erosion both from the river action, and the periodic storms rising levels, and what is “protected” by dunes and marshes and wetlands will be slowly degraded or possibly inundated and we are losing a lot of that protection.
- Climate change. Development versus preservation (i.e. LNG disputes).
- 1) Shoreline armoring in response to sea level rise. 2) Chronic water hot spots - nonpoint source pollution, 3) Water supply and quality. 4) Ocean and function.
- Climate change will further exacerbate current issues.
- Timber management, also the fisheries. Relying on a finite resource. Ocean conditions are out of their control. Really affects the communities. Currently writing the Rogue River Estuary Assessment (a strategic action plan) to assess water quality, wetland development. Can do lots of work, but ocean conditions and timber management are worrisome. Always looking for better timber management practices. (Private still clear-cuts, uses herbicides.)
- Climate change. Frequency and intensive of storms.
- Off shore wind and wave power development. What the potential environmental effects of those uses are. We need to address the environmental concerns that are associated with those activities. If those industries do grow – there will need to be a new body of work of how to mitigate. Environment can also extend to competition for uses of space along the ocean and coast. Lots of conflict of interest with off shore energy and commercial fisheries. That could have unintended environmental consequences. If you site an offshore wind or wave farm that might have a positive effect on the marine environment. Other major environmental issues that are emerging in coastal planning, are marine protected areas. Oregon has done a decent job with Marine Reserves, they haven't done what California has done which is a large scale planning process around Marine Reserves. Land use and growth – looking at storm water runoff and fresh water runoff. How do

people cope with the shift from resource extraction to tourism impacts of users? Industrial pollution, or more people.

- Growth. How will we accommodate growth to protect the environment and be beneficial to the fish, wildlife, inherent value/commercial value, as well as overall environment / people. If planners can get a better sense of the trends can't plan ahead.
- Big challenge is coastal erosion on the low-lying communities, e.g. Seaside, Neskowin, etc. will affect the estuaries and shorelands – will see effects on wildlife and vegetation as well as oyster farming which is sensitive.

How will these vary for different portions of the Coast?

- Significant potential for wetland restoration in areas that were filled in the past.
- Very small percent of coast dedicated to port activities.
- Will continue to see more severe erosion (like near the Hatfield campus). Sea level rise, from a practical perspective, will have an impact on the businesses, because of regulations for flood insurance and etc. It seems evident that most all the bay front will be in a floodplain. All of it will soon be in a floodplain, and the cost for that insurance will drive the businesses into the ground. There is a cost that goes into that and it impacts people that do business here.
- In a physical way – not sure – won't guess. In terms of resiliency – those areas with access to better educated people, both citizens and outsiders that can provide help, will have a chance for more resiliency.
- Limited variations. More population pressure in North and Central coastal region.
- Tale of two coasts.
- Only familiar with the North Coast.
- Only familiar with the Central/South Coast.
- Same for all portions of the Coast.
- Think the South Coast has its own problems. North Coast different challenges (close to Portland). South is so far from everything – don't know if the broad things will affect them differently, it's a broad generalization. What happens in one area, may happen in another. Just know that the optimism of resource use will get us into trouble. Resource sustainability. The variances in climate will affect us a great deal.
- 1) Low sulfur fuel requirements for shipping industry - resulting in changes in shipping patterns. 2) US exporting refined fuel products, for use elsewhere (for shipping coming into US waters) 1st time since Truman
- For the most part these challenges will not vary.
- Lower lying areas (estuaries and shorelands) will be hit the hardest by climate events.
- Given the nature of the drainage patterns, certain Central and Northern, but definitely Central – Coos Bay up to Seaside – all those communities are built on the coast and significant sized estuaries that drain the estuaries and they are more prone to flooding and runoff effects from mountains and hills and then the tidal forces of storm forces and rising ocean level. This will affect Central and North Coast more.
- Coos Bay similar to Tillamook – land uses, focuses, development/preservation. Third way of moving forward – picky about development but realistic.
- It will be the same for the entire coast.

How do you think predicted increases in relative sea level and winter storm-wave heights will affect our estuarine and shoreland areas?

- Neskowin as example of proactive approach - establishing overlay zones with increasing restrictions the closer one is to the beach. Talk about these issues but haven't seen hard data on climate change impacts. DOGAMI has data on tsunami zone areas.

- Affects where/how can develop.
- 1) Very gradual. 2) FEMA lawsuit & TMDLs will have more direct effect flooding, especially in Tillamook County.
- What do we do when these areas fail, infrastructure in harm's way. Do they have the wherewithal to repair it in a timely manner? Or do we stop making investments here and seal it off and those property owners are on their own. This is a problem at Agate Beach – every year having to repave the roads because the roads keep shifting and it has cracks and heave points that have to be dealt with. Constantly repairing water and sewer lines.
- Mother Nature will take care of the estuaries - there is more concern about the man-made features that will take a beating.
- Habitat shifts / food availability/ introduction of exotics. Effects on shellfish with tidal changes.
- Think about the sewer systems that will be affected financially / pollution and causing residual problems and what that will cost environmentally and economically.
- Increased cry to “shore up” existing development which will make things worse.
- Efforts on flow regime and habitat; changes in salinity.
- Will lend to influx of population fleeing from elsewhere. This is the most troubling implications for our planning system.
- It will test infrastructure. Channeling will have to be replaced with systems that mimic nature.
- Did not feel qualified to answer this.
- Remains to be seen.
- Tidal surges and wave heights will be less predictable and more extreme - greater potential for damage. Significant coastal erosion will affect development on bluffs in particular.
- Coos Bay floods already. Local government and people increasingly aware of climate change because they are seeing effects. Uplift is occurring at the same rate as sea level rise. Utility providers are already retreating from shoreland (Coos Bay sewage treatment facility has moved up hill).
- Depends on how significant the changes are, could affect restoration efforts and low-lying structures under water.
- Erosion will happen even faster.
- Increased demand to harden the shore.
- Will have more of it. We already have strong wave heights. Most of the coast is rocky. Won't be too bad. But all the little towns are on the beach shelf. The industry and fishing too. So those could be impacted by that. Don't really know what it's going to look like necessarily.
- Areas that have been developed less or have more natural habitat weather the storms better.
- Negatively, it's not going to be good. Even if I can't put my finger on the exact outcome, it's not going to be good. In places like Neskowin, so what does that mean for our beaches? It doesn't bode well at all. Not only to fundamentally alter the landscape, it's going to have significant impacts on the coast. If the water rises so much that it potentially inundates the beach and mean low tide is low to the bluff, then you won't be using the beaches anymore. Waldport and Cannon Beach, they are super low lying and their economy is based on using the beach – so major implications there. Then the increase of pushing up the brackish water up the river channel. Also acidification, currently impacting the oyster industry. Question is will it affect crab and shrimp – will that be a problem?
- You might greater erosion rates or infrastructure damage (i.e. Hurricane Sandy) don't know how that system will respond, but these are coastal management questions. How do you plan to account for these types of natural hazards and storm response. Build resilience into the system. Many communities are grappling with this right now. Sea level rise is more of a human problem rather than an environmental problem, it's a shape and geomorphologic change, but it's a challenge for a city manager to keep the streets dry. But things like ocean acidification – how are you affecting commercially and ecologic species. Becoming more of an issue – more upwelling of acidic waters – broadly speaking, what are the larger food-chain effects. It's the ugly step-child of climate. How do

we assure ecological resilience. These are originally systems that are becoming more and more brittle.

- Expectation is that water quantity will change and no one is clear if it is less or more. The salinity of the estuaries will change, which will change the composition of what can and can't make it in the estuaries. So you will see species change, and the lack of hydrologic connection to some estuaries, will see a much more dramatic catastrophic damages with storm events. When big storm events occur, the buffer is gone and it will really impact the coast lines and developments along the coast. Nice thing about estuaries as opposed shorelines, there is such a reduction of the impact of the storm front and there is such a long way to travel to get into the energy of a storm into the estuary so for wave-height, less of an issue than the sea level rise in estuaries. Concerns about temperature and water quantity are going to drive the ecology and restoration efforts for tidal wetlands in the estuary.

How should we respond to trends affecting specific natural hazards issues in planning for estuaries and shorelands?

- Need to look at new standards to take these into account; new planning needed; how to retrofit facilities to be able to survive these increases; how to respond to worst case scenarios. Dredge material disposal sites - how affected unknown. Dredging itself - need for increased dredging.
- 1) Will be prepared to respond, 2) Disaster after the disaster - loss of infrastructure is the greater danger, supplies will get to where majority of people are.
- Not worried about tsunami because the earthquake will get them. Coos Bay is built on fill and if a big enough earthquake hits, the ground will liquefy and the tsunami won't matter. Bridges will be cut off from the north. Not very many people would be able to get to work or out because of bridges. There are people who still don't believe in global warming – still a political issue. There are a lot of people who don't believe in science – and that is hitting on education again. Some people will ignore it regardless.
- Need to be ready to respond to emergencies – need some reserve capacity (financial or equipment, intellectual capital to bear some of those shocks) don't have a sense of the coastal context – is the general population aware and responsible enough to have a conversation about these issues.
- A more serious approach/ implementation of Goal 7.
- Identify/estimate the most venerable areas and don't put things there.
- Learn to let go of or not rebuild things that already exist there.
- Have insurance companies reflect the true cost of developing in hazardous areas.
- Understand that by the time you identify a trend you are already in the trend.
- Bigger issue than climate change; opportunity to assess where do we build now.
- Tsunamis will wipe out all port facilities on South Coast.
- It will not always be business as usual. Development & financing structures will have to change to promote smart growth.
- Did not feel qualified to answer this.
- Increased focus on hazard mitigation designs and population preparation.
- How should we respond to trends affecting specific natural hazard issues, e.g. landslides, earthquake hazards, in planning for estuaries and shorelands? Quite a bit of that going on. One is partnership for coastal watersheds. Just now looking at an update of the Coos Bay Estuary Management Plan, which was last updated in 1972. Countywide estuary management plan. This group is looking at petitioning the County make it usable and build into it what we know now about Tsunami, sea level rise, and climate change.
- 1) Storm events disrupt economic activities, 2) Safety effects on fishing fleets in ports, especially Tillamook
- Effects on infrastructure is the big issue.
- See DLCD handbook.

- First through zoning and comp plan development that allows for no further damage done. Don't build in high-risk areas, and prepare for retreat, and identify where development is appropriate. There are certain things we talked about it, for those who are altering, to protect their ocean structures – and part of that fee goes into a pot for those who can't afford to pay. Don't just go to FEMA; have to be more proactive about getting people out of those high risk zones.
- Learn how to respond – move upland, use planning tools such as zoning and UGB changes.
- Questions about when to retreat or armor have to be addressed.
- Work with nature – ecosystem services.
- Become more resilient.
- Oregon is doing a pretty good job educating about Tsunami's, we know that the Cascadia Subduction Zone is there, and we know a lot of what it's going to look like. Scott Ashford, on sabbatical in New Zealand right now, in a few months will be in Tokyo – he is an expert. OSU – on a research panel who goes and looks at it. He said the Chilean Tsunami was indicative for what it would look like here. Set policy around transportation, construction, alert systems, those are the right things to do to be smart about it. In terms of landslides – if we're still having problems about that – let's talk to experts and get standards that help mitigate where we can. Earthquakes – if you have efforts going on in the state to see what happens elsewhere in similar geographies – how can we learn from them to inform our policies, then we would be in much better.
- First, do something in advance. It behooves us to do everything we can to mitigate the impacts and then prepare for them. We have missed the major window to mitigate changes, will be living in a different world in 20-40 years. Oregon is doing what it can for one state to offset the carbon imprint. Taking fossil fuel facilities off line. It's not about the U.S.; it's about China, India and the U.S. in general. In terms of mitigation – have some progressive folks doing work for disaster preparedness. Talking about billions and billions of dollars of investments in communities so they can survive in the environment. It will not come in a piecemeal approach, but is probably a rebuild after some sort of storm or tsunami that destroys many of our communities. Earthquake – can't prepare – but need to rebuild after it's done. Will have a hard time getting money to raise money.
- There are so many natural hazards. Potential for natural hazards – tsunami, earthquake, debris flow, mud flow, flooding. Estuaries play an important role in buffering the hazards – and their dynamic nature allows them to adapt better than other ecosystems – but if you get a mass of landslides in the headwaters – you will alter the symmetry of the estuary and a shifting ecosystem to different locations in the estuary (or getting rid of them completely). Tsunami – we're all in trouble if that happens – it's really about flooding and wetland loss and terms of what that means in terms of resilient communities and habitat.

5. Energy

What are the key energy trends affecting coastal planning?

- Pacific Corp is the energy provider here, have Bonneville Power that runs a trunk line through the coastal zone into California. Back in 1995 Bonneville Power was going to do the South Coast reinforcement project so that the brown-out and black-outs wouldn't happen. Here we are 18 years later and it's not done. So still have the problems. Think there are alternative energy opportunities here, the wave energy folks have come down here. But they can't have the attitude that they need this particular ocean environment, so we don't care if this is where the prime crabbing grounds are. But for the foreseeable future, energy is going to be subsidized whether state or federal. If you come into a community and displace an existing economic structure, it's not going to work. People don't quite understand, that, these waves can generate energy, but they're not getting the force of waves in the Pacific Northwest winters. Project Effectuate – deep water wind – floating platform – same as used for oil/gas industry, but the power generation components are the same as the land based – they marry those two – put them in a 'sweet spot' of pretty constant wind north of San Francisco to Coos

Bay, but again, it's an emerging technology, it's very expensive to develop anything, and so there is an opportunity there, but in the particular case of the LNG project, they are supporting it, and they have offered to be the wind energy buyer (but it's at a higher rate than Pacific Power or other traditional). It's just more expensive overall currently. LNG says it's only going to provide about 5% of their needs, but in the global cost of things, they can cover it. So maybe 20 years from now, ocean wind energy will be cost competitive, but until then it's going to be subsidized. One of the other things the LNG project does... look at SW Oregon, there is a major pipeline that comes through the Hwy 97 corridor through Central Oregon. Some of that gas comes from Canada, some from the Rockies. Most of it goes to Northern California and Northern Nevada. Some branches provide gas to Bend, Klamath Falls, and somewhere near Klamath Falls that takes it to Jackson County/Medford, East to Medford there is another pipeline and it is fully subscribed (no additional capacity) so if you had an industrial opportunity in SW Oregon couldn't get gas to that system because of their capacity. So the Jordan Cove project pipeline capacity piece, that new Ruby pipeline is providing more gas into the system, but some of that gas is going to flow through the pipeline into Coos Bay, and other SW Oregon cities will be able to tap in order to capitalize on opportunities because they have the energy capacity of the cleanest burning carbon energy. You have to look at all this as a pipeline and electrical grid. Have to consider the rural secure school funds – the county payments – and as those ratchet down at the federal level – the state has no way to make up for those losses. Just in perspective – Oregon not the only state to have benefitted from this program, but we look at this opportunity here. If Jordan Cove comes through, it will help Coos, Douglas, Klamath, and Jackson county for property tax revenue to help the schools. It's letting the communities pull themselves up by their own bootstraps. They are just as concerned with the environment as everyone else. Think there is an opportunity to use this harbor as a way to sustain the local / regional center.

- Wave energy. Recently the Pacific Marine Energy Center (PMEC) identified to be located in Newport. Will also be opportunity for wind energy off the coast.
- Tried to get wave energy, but factions fought against it; went instead to Newport. Coos Bay is looking at offshore wind energy. Possibly in next 20-30 years, might be feasible. But people here don't want subsidies to throw the money away. OPT should be putting their first buoy out past Reedsport, but it's so expensive, is it worth doing?"
- Been involved with wind energy – test plots – past ten years. Not a real convert to wind or wave energy. On a small scale, great, but infrastructure costs are great. You need to be close to a transmission line. And b/c of where the lines are along the Coast, it is difficult because of the varying winds (gale force all the time). Concerned about wave energy invading existing industries like crabbing. Problem with people / economic interests trying to gain control of the ocean. When you put wave energy there, it disturbs the sea bed and it doesn't work to put crab pots down there. There may well be technology out there to generate energy from the ocean. Would be great though to develop a local source of power. But the mega interests locking up segments of the sea floor – not good. Looking for locally based solutions.
- Energy transmission lines - how they will be regulated in estuaries. Wind energy less of trend than wave energy.
- Territorial Sea Plan will define opportunities for Oregon waters; major energy development will occur off international continental shelf, offshore wind will be major driver. Camp Rilea offshore area is opportunity for energy self-independence. Joann Manson, OR Military Department, Salem is leading a feasibility study. Biomass.
- Too early to tell if there will be viable alternative energy production; eventually will be economically viable.
- 1) Danger of running out of fossil fuels - needs to be addressed now, alternative energy source are very expensive. 2) Opportunities in forest lands for wind energy production - acceptance from forest industry
- 1) Communities are reflective of whether all the industrial development is appropriate - concern about environmental effects, economic effects. 2) Tourism/recreation/real estate - Surf Rider study

of recreational economies funded by Packard foundation. 3) Extremely expensive to do anything in the ocean, 3) every wave energy company is unique - these companies are going bankrupt, 3) blending economic development and energy policy, 4) No real off-shore wind energy development without sizable public subsidy. 5) Would not put a dime of money in wave energy, 6) Research and Development to be expanded - it's all research and development at this point. 7) Wave & off shore wind energy not economically sustainable. 8) EcoNW study on economic benefits of wave energy, 9) critical thinking needed about economic realities of wave & wind energy. 10) Goal 19 did not anticipate the energy investment currently experiencing. 11) Inadequate funding for marine spatial planning that's needed.

- Wave energy. The test facility – not an actual grid connected deployment. Have to assume that the test technologies will pan out eventually. The local power is Bonneville. Start to see some of that chip away at the Bonneville source. May see offshore wind towers. That's a possibility. Getting to a point where they can do the tests.
- Wind energy off of the coast of Reedsport to the north. Wind out on the ocean at Coos Bay too. Need to get that energy back to shore and need to consider what happens if we get a tsunami – where is the power station, etc. As for wind, they had a proposal for wind turbines but they don't want large turbines in the urban area. Not a lot of people asking about wind turbines. Not an appropriate area.
- Concerns re impacts on existing fisheries / skepticism.
- Don't know how feasible alternative energy there is - don't know how much employment impact that can really have. Where are the skills? Not at the coast. One of the things that gets built, but then maintenance. Crucial that it is a local energy source – and this is critical if we're cut off from the world. How to keep the two nearest cities lit when something bad happens. How significant will alternative energy sources be in future planning for estuaries and shorelands? Two answers a) again, are local areas resilient to disruption, b) to the extent that systems are built to mitigate it's a good thing.
- Not in a big way anytime soon. If the ports take off, there may be more business. But don't necessarily see that as having an impact on the estuaries. The type of use that we're talking about wouldn't be that different to what is going on already. Barges, boats, going out, not going to be occupying shorelands and changing them fundamentally. Not a big impact one way or the other. Maybe some increased business for certain ports.
- Wave energy. LNG. Increased energy efficiency.
- Huge potential but huge politics.
- Wave energy. Wind energy. Power generation via power pumps in pipes.
- Wind and wave if they are proven to be cost effective.
- Wave industry restricted by Territorial Sea Plan. Wind energy potentially a growing industry.
- We are spoiled by BPA (Bonneville) and the low cost of power that BPA charges. As we grow, BPA will have to up their energy rates and the costs will change quite dramatically in the next few years. Think that wind has some potential, but energy use will become more efficient as it becomes more expensive. To be smarter than the use is necessary. The trend in higher energy cost and the areas that can cope will be fine, but the others will not. The Coast will not be a great energy generator.
- Wave energy should become the next big thing for tourism economy. Will see a pretty big increase in the digester program – take all the cow manure – get the methane out – and net meter it back into the grid. In considering the dairy industry in Tillamook, that could be a big contributor to energy, plus they get the deoxygenated liquid back to farm, and the solids left over are just soil. Clean air, clean water, and three products, and this includes renewable energy. Tillamook PUD is testing with micro-digesters on the farms. If this were thoroughly installed throughout the entire farming industry on the Coast, could build a substantial industry. Also – woody biomass being talked about – some relationship between OSU and the military and they are looking at devising a way to extract extremely high octane fuel from wood and OSU is trying to site a plant somewhere along the coast –

looking for a port. (Dan Biggs Economic Development Director of Tillamook County would know about this.)

- We rely on BPA and Columbia Gorge Dam system. Don't even factor in wave as a source of energy because it's currently too uncertain. Won't be a source, but is currently R&D. When one looks at the trend for BPA, the cost is rising. The rates were calibrated differently. Not much to say on the trend. Have PUD's, they are stable as well.
- Green energy is something to strive for – renewable energy. There are opportunities for way off-shore wind energy project. If LNG goes through it will build the infrastructure for deep water where it doesn't affect the beauty and functionality of the shore. Really excited about building and deploying out there. If LNG goes through, they can build and deploy.
- Wave and wind energy is not the answer. Research and development will increase more than actually alternative. Energy industry. Hard to justify heavily subsidies due to availability and low cost of oil.
- Growth in the alternative energy industry. However, it is a big investment with unknown returns. Increased conservation effort. Natural gas may grow or not due to risk of possible geological event(s).
- Opportunity for Coast to become self-sustainable.
- In Territorial Sea, they went through a value assessment along the Coast for the highest value for scenic quality and put that input into the potential energy and wave sights along the Coast. There are some areas that won't have a high impact and can look for potential in wave energy and wind turbine development. But given the energy on the Coast, could harvest some of it in a successful way - rather than a water dam somewhere else. We need to be responsible for what we are consuming.
- Wind/wave/LNG/Coal.
- 1) Positive about outcome of Territorial Sea Plan process. 2) Access to transmission lines critical factor to selection of sites.
- Increased interest in alternative energy production.
- Wave energy did not work in this area (needed to be closer to other things). Still looking at the idea of wind energy off the coast. In the future – bio-char – Three Dimensional Timber is the group doing that. Lots of slash in the area – so they just burn it. Trying to get it down there to use as bio-char. There are oils, things you can use in food, and the bio-char that you can use as a different filter (for water quality stuff) it's really great by-product and not expensive to do. Also with the sudden oak death – can't do anything with those trees but burn them – so it was a thought to also use those. A way to use something adversely affected.
- Potential wind/wave development.
- How can we bring this energy onto the coast if current energy is so cheap. Cost is transmission lines – if you have to keep spending money to lines to the Coast. As people think of the energy – how to balance it when you look at the transition problem.
- Transmission lines, investment. Bonneville Power - \$5 - \$7 million to be invested per year over the next few years. Will happen primarily down on the South Coast. They are on a long extension cord. With the growing population, will come up against the supply for non-investor owned utilities, the small PUDs, they get their power from Bonneville – so now have tier 2 rates – if you are growing community, you can buy power from Bonneville – this extra power needs to come from new forms of generation (will cost more, Tier 2 rates, comes at the actual cost, not the subsidized hydro power rates). Local communities have incentive to create their own power sources – will see increased locally powered generation. Thinking about biomass, bio fuels, and use of things like horse manure, carcasses, debris, hog fuel, and capturing methane from landfills. Lots of smaller projects distributed generation. In Brookings, they have locally generated power which will alleviate power. Could have solar on the Coast, wind seems hard because of resistance to see the turbines, and wave energy in the 20-year time horizon before we see change.
- Energy is a major issue on the Coast. Energy that can be compatible with what the Coast needs. When we talk about wave energy we are looking at displacement and aesthetic impacts which may

reduce home values which go beyond the energy that it produces. The energy forms are so expensive – it's hard to see it gaining a hold and being self-sustaining. Dams, they likely won't be building more and getting away from hydro power, there is no choice but to find alternative forms of energy.

How significant will alternative energy sources be in future planning for estuaries and shorelands?

- Yes. There will be issues around the visual effects of these energy sources. Will probably affect the Territorial Sea Plan process. These topics are being vetted now, and it will continue to be an issue in Newport and other areas with opportunity to seek alternative energy. For Oregon and the Coast, we are just now starting to see the changes. DLCD, DSL, and Governor's office to deal with these issues.
- No major changes in generation and consumption, more focus on conservation.
- When it does get to commercial point, how does that affect the viewshed and tourism. Wind towers and buoys. They hope it will be significant. If fossil fuel costs keep rising, it's going to have a serious drag on the economy.
- Too speculative. Assumes we know too much. Too many uncertainties.
- Conservation is key.
- Due to the size and mass alternative energy systems, many of the products will require assembly in the coastal region.
- Could be very significant if actual development occurs. Changes to the ecosystem due to physical installation of alternative energy components
- Coast is too remote. Poor power transmission. Energy costs are too low to increase demand in alternative energy.
- There is some potential for small little systems (hydro systems) that won't mess with fish and so on. But kind of expensive (three times more than from BPA). For generation – not so much. For conservation, a lot of potential there. Charging people different rates at different times, one of the most simple and cost effective ways to do it. It takes so much time and knowledge – the simpler you can make it the better you'll be. Don't see much for wind wave. Wave will be a big bust. State should do the research to see if a surprise development occurs – but at this point – it will be a big bust if we go large scale. Very small potential to effect big change.
- Small solar and wind could be a factor in the future – small, local, DIY. There are applications for wind turbines at the top of the Coast Range Mountains – but non-locally. Other parts of the coast – perhaps.
- It's windy here, but it is not consistent and not dependable, except for that sweet spot where off shore the wind is consistent and that's where these would be deployed. Not super optimistic about solar. Grid is not up to par for capturing excess generated energy. The Jordan Cove project – the offshore wind energy would happen, they planned to build a grid that would utilize most of the wind energy for their operation. That's how they are tied together. The expansion of the grid would result in a permanent expansion which would make it more conducive to on-shore wind and solar, at least bio-mass production.
- Conflicts from energy development with shipping would be limited to harbor entrances
- Not very significant. Conservation will be more significant.
- Skeptical - rough environment to make work
- There is a lot of potential there, significant, not more than 10 – 20%, but that would be significant.
- Not much – people will expect them to be there.
- Hierarchy of regulations can be daunting, especially with overlapping jurisdictions
- Could have negative implications for environment due to construction and installation of devices. Opportunity for local power generation.

- Have planned the Territorial Sea already, would hope that eventually the place is a cleaner and easier thing right now (wind/wave) and it could bolster the economy – always have strong waves and wind. People don't want it now because it's in the viewshed. Could see it eventually where fishermen aren't crabbing and where wave energy could be used.
- Major power lines can limit habitat.
- Would see the first arrays in about 10 years, if the federal government continues to fund the R&D. Private investors don't invest until it's proven it can make money. The other thing that needs to happen – great article in Huff Post – troubles with permitting for offshore winds. Need to streamline the processes to get consistency across the agencies – would help a great deal in moving the technology forward sanely and safely.
- Most of the stuff will be happening further off shore. There are wave based technologies that are shore based, but most of the growth in Oregon and interest is the mid-depth to deeper water technologies. Not shorelines and estuaries. Those technologies could have some effect, in terms of changing sedimentation, but that is speculative. Most of the stuff will even be outside of the Territorial Sea. If you have a robust energy industry you may have a rise in the ancillary industries that can benefit/change the coastal economy and impact the environment but not directly through environment.
- There is complexity in power markets on the West Coast. They will be more expensive than natural gas until we tap out the gas. We also have cheap hydro of the NW which is really hard to compete with solar, wind, wave, and tidal. If you can create renewable portfolio standards, don't see why ocean power can't play an important role. It can be a part of the solution. One of the key things is, to articulate what the value of the power is. How does it improve stability of the power grid and people's lives and achieves our goals. So there are a lot of policy questions. Technology questions – can do it. Can you sell it, market it? 10-30 years. These are difficult.

6. Key Public Programs

A variety of federal, state and local programs affect Oregon's coastal estuaries and shorelands. What are the most significant opportunities and challenges that you anticipate for these programs during the next several decades?

- Question leads to many other questions. Oregon has one of the most sophisticated land use programs. We are looked to by many states for this. We will be looked to as a leader in terms of how to answer those questions. Challenge will be that we have to provide good planning and communication with all the regulatory agencies as we go through new public program processes – and need to be consistent and prepared for change. An example – work now with the Territorial Sea Plan for Oregon – which will affect shorelands and the planning process.
- A variety of federal, state and local programs affect Oregon's coastal estuaries and shorelands. What are the most significant opportunities and challenges that you anticipate for these programs during the next several decades? The availability of funding. Everyone is broke. They say they'll dredge, but the federal government has no money to dredge.
- Unless the Legislature gets involved, these efforts stay just with DLCD. Maybe it's time to roll back some of the land use designations – have a surplus of development have nothing happening there. They need to keep it open and diverse so that when something comes in can respond quickly with other results
- Estuary enhancement, not watershed projects. Community based and commitments from local communities. Increased construction work, there is some real room for actual positive work in that regard. If can enhance the fish populations, that will be the thing to do. Managing wildlife populations is challenging. ODFW does a good job, but there are so many factors – there are good years and off years. Must enhance overall, can't predict ocean conditions, but make it the best possible. Dungeness crab population managed by ODFW. If you look at this crab season here, everyday it has been fishable. Brookings came in at second highest crabbing spot after Astoria.

- Funding challenges.
- Keeping them funded will be growing challenge - need to be nimble to changing conditions.
- Community buy-in is required in order to successfully implement.
- Increasing rules and regulations. 2) Diminishing funds.
- 1) Upgrades in health care are critical. 2) Without functional local government cannot accomplish anything - no organizing mechanism. Sustainability of local government - if local police, schools are dysfunctional, cannot attract business, population 3) Ports need to be worried about budget for dredging, jetties - smaller ports may fold.
- Funding. They have no money and if they have no money, no pass through to local governments. It's a huge challenge. Also need to look and work harder on efficiencies on the estuary side. There is too much overlap with estuary planning, with State, State overlap with Feds. Efficiencies could improve business and how they protect estuaries.
- Will be a balancing act with the biologic environment and the human environment. There needs to be some rationalization as to what is acceptable and what is the ultimate goal. Do we want to grow eel grass beds (that may or not have been there in 1840) so we are making assumptions of what should or should not be here. There needs to be an understanding that if human activity needs to occur it will have negative impacts on the environment and how do we mitigate that if we want development to occur. There cannot be a black/white line because that's not the real world. Especially if dealing with systems. There needs to be a way to place a value on both the biologic spheres and not a dollar measure, but something along the line to measure impacts and costs, whether it be energy units, like in the carbon tax deal, to bridge economic development and preservation and overlay that onto the State's ultimate goals for those regions. Needs to be a way to level the measurement, and to measure the impact and to make a decision and to make it fit the goals or not. If it doesn't fit the goals, and is the alternative worse than what you are trying to save. The airport wants to extend their runway – there was that whole eel grass issue – but if they can't expand it and commercial flights end, what is the cost-benefit (what the airport supports, and the eel grass supports) and where on the continuum is the benefit? (Folks on the South Coast don't think that Salem knows where they are). And if you say no to development, what do you we do to sustain the economy in its place? How do we stimulate that region as an offset to the loss that they would have. Make set-asides and provide mitigation? If they say “no more shipping” because it's bad for the clams (or x, y, z). You have a community that relied on it – what are you going to do for them?
- Politics of funding.
- There is the opportunity and the challenge to rethink how we do schools, housing, and government. The old way is not going to work.
- Biggest challenge is in being able to anticipate change and be able to proactively address it. Very limited resources to do that. Local government doesn't really do long range planning, all are in defensive mode, even with problems on the horizon, they just have enough to get by with the day to day. Their ability to absorb the impacts, will involve acquisition of resources, those are probably not fiscally possible. Going from crisis to crisis.
- Get ahead of the curve. Provide a buffer for estuaries and shorelands to move. Blank financial outlook for years to come. Limited overall population in Oregon, State planning has not been truly tested yet.. Resist urges for expansion of UGB's.
- As funding for dredging dries up, more estuaries will revert to natural state - need to re-examine functions and management of some estuaries. More critical where there is some degree of development pressure. Columbia River and NOAA facility at Yaquina Bay likely to be better financed than Coos and other ports. Funds for infrastructure likely to diminish. State Coastal program funding may diminish.
- Increased competition over limited financial resources.
- Federal tax credits for alternative energy have declined or are non-existent.
- Same for dredging.

- Funding overall. Public indifference. Resource conflicts. ESA issues.
- Biggest one is the federal money that has been thrown at the ports for dredging and so on. Somebody did an evaluation that this is a very expensive program. Umpqua, spending \$2 million a year. Florence, \$700,000 a year. And the amount of fish brought in to Florence is \$300,000, and nothing coming out of Umpqua. So what will happen if we tighten up? We will dredge Astoria, Newport and Coos Bay; the other areas, can't be shown to be cost effective. The other big issue is the expectation that the cutting of the 70s and the 80s is going to continue forever. Unless we get into a different system, but if those federal lands were taxed at the same rate as industrial lands, we would only get about a third of the money. Our expectations are too great based on the resource patterns and earnings based of the 70s and 80s.
- Number one is zoning. Rezoning challenges. Estuaries are extremely protected, as they should be, and yet some of the development restrictions for estuaries seem counter-productive for protecting the waterways because while some zoning mitigates immediate impact, it prevents a transition away from large-scale impacts to smaller-scale impact. So when you have an existing infrastructure at a port in an estuary – zoned water dependent industrial - for the port to transition away from that to rezone and restructure and zone down on resource extraction and zone up to forms of economy that allow better long term impacts.
- Federal funding is tied into a lot of the coast economy. Government budgets have a lot of it. All this money in grants and budgets along the coast to study and do work would be affected in budget limitations occur. Need to understand the federal government being a landowner along the coast – the budgets on those entities would affect Oregon coastal tourism. They are all things we'd have to evaluate to see what will happen with uncertainties in the federal economy.
- Reduction in all federal programs due to budget constraints.
- Concept of spatial zoning. Opportunity to use GIS, spatial zoning, better mapping. How will data knowledge begin to be better applied in the planning practice.
- Opportunity - step back and see what has been accomplished - see how existing tools can be better utilized. Challenges - there is a real disconnect between what agencies see as what is “best” and what needs to happen to get “results” (i.e. mitigation – restore to what level?) There is a lot of regulation and redundancy. Opportunity to make stronger linkages between social drivers affecting land uses and conservation. What are central thresholds affecting land use choices. Resilience theory - what is the range of choices to make in a less predictable future.
- Challenge is an opportunity – but it's time to think about more appropriate land use planning that allows people to at least conduct no further harm and then are there ways we can minimize the damage and health hazards who are most vulnerable and begin to try to move toward reducing that risk. That will take land use and other regulatory functions. Can you build in resiliency to areas that will be awash in storms, and to retreat to allow wetlands to form again. Plan for the future and plan it to be resilient to environmental changes as they occur.
- Opportunities - local community involved in shaping their future; DLCD needs to continue encouraging comprehensive plan updates; Coastal Zone Management Act lawsuits – will drive change; less money available for planning and implementation.
- 1) Governmental should not be supporting projects that are known to be detrimental to environment - exporting coal and LNG. 2) Challenge in keeping ports dredged due to reduced funding. 3) Political will, especially in face of anti-government opposition.
- Opportunity to pull back and respond responsibly to climate change issues. Redesign infrastructure – long range plan in response to climate change. Opportunity to get honest, accurate information out to the public about natural hazard risks.
- The current financial climate will have long-range impact on the amount and direction of funding.
- What does this mean for restoration and environmental protection programs?
- Continuing reliance on a resource-based economy. Why are we still exporting logs to China? What kind of economy are we that we still rely on this? We are not a developing nation – so we are

continuing to rely on resource economies. We are sending away so much of our biomass (i.e. crab) around the world. Timber, minerals, mink farms. Inherently destructive industries, resulting in siltation of rivers, destruction of habitat, soil erosion, algae blooms, dead zones, still have sewer pipes out to the ocean. Continuing the same is the biggest threat.

- Funding issue. What is the fiscal environment for the next 20 years? If total austerity, what kind of capacity will we have? Political support in general. Will they be on planning overload? All the little efforts to do the meaningful good things that don't feel coordinated and targeted? How can the programs coordinate better and have a sharper message. How to get around the fatigue of planning. What are the issues important to people? Opportunity and challenge – who are the people you are reaching out to? How will the people along the Coast change and how do you reach them? Figuring out the messages that will most resonate with folks to support work on the ground, if you have a new industry like off-shore energy it will take support for that. How do you develop a market for this? How do you integrate that with the existing grid? How do you set up incentives and programs? Oregon Wave Energy Trust – example. OSU and the National Marine Renewable Energy Centers. They are making it fly.
- Certainly funding. Some of those programs depend on local level implementation. Local governments will make or break the effectiveness of many of these programs.

7. Key Sources of Information

What are the best sources of information for specific trends that we should review?

- ODFW. Oregon State Marine Board.
- Off shore energy websites.
- DOGAMI reports.
- Community development directors, chambers of commerce.
- 1) Surf Rider Foundation: Non-consumptive recreational use study - ground-breaking study of economics of recreation. 2) Coastal Economic Landscape study done 10 years ago.
- West Coast Governors Agreement.
- Oregon Climate Change Institute.
- Columbia River Estuary Task Force.
- NOAA Research Station.
- Oregon Graduate Institute.
- Coastal Land Research.
- DOGAMI/Jonathan Allen's work on erosion.
- Port strategic plans.
- Pacific NW Waterways Association.
- Marine transportation systems, ASCE report card/studies, Harbor Maintenance Trust Fund, RAMP ACT.
- Resilience Practice - Brian Walker and David S. Salmon River restoration monitoring - how relates to salmon production - how restoration leads to increased production. Natural Resource Council report (recent) on sea level rise for WA, OR and CA coasts.
- A number of publications, like the California Coastline Vulnerability analysis, which is mile by mile assessment of the vulnerability to all natural hazards. That is a very important planning tool. What about a study to identify if you are losing, gaining, need to do beach nourishment? What does it mean to protect estuaries. More large-scale comprehensive management needs to be done to plan for these changes over time.
- Downscale climate change models.
- Coos Watershed Association website – watershed assessment.
- Partnership for Coastal Watersheds.

- 1) Recreation use study prepared by Surf Rider Foundation. 2) Information assembled for Territorial Sea Plan
- Estuary prioritization documents.

Who else should we talk to?

- Jonathan Right – City of Reedsport – City Manager.
- Hans Radtke, Research Group. Kevin Heihie / Dan Biggs - affiliated with Clatsop Community College.
- Mayor of Coos Bay.
- Fred Misserly – husband and long time rancher – land resource guy – former County Commissioner.
- Shannon Davis – Research Group – shannond@prg.comcastbiz.net, 541-758-1432
- Investors (for ports) - who are the investors?
- Peter Ruggiero at OSU, John Bolty at OSU - envisioning programs / figuring scenarios - how to integrate socio / potential choices into planning for future.
- Jim Hossley, Coos Bay Public Works.
- Rob Schab, Coos Bay Water Board.
- Coastal watershed councils; Paul Englmeyer – Audubon; Charlie Plybox – Surf Rider; Harry Huertedder, John Soter, Liz (Seulow), Wayne Hoffman.

As we collect this information about trends, what would be most useful to you in terms of sharing the results?

- The most useful thing will not be a 300-page report – you have to tell a great story that people can use as a launching point– but an entertaining narrative that frames it up and sends people out inspired to do something.
- Not just a report; discussions among planning community, county and city associations and legislature. Given the trends, where should we be directing funds.
- Workshops and briefings on what various communities are experiencing.
- Identify how people differ in their opinions. Bring folks together Arnie Robland style event, invite a few superstars, e.g.. Susan Morgan, Coastal Caucus as sponsors.
- Regional breakouts are useful; written document vs. PowerPoint with methodology.
- As we collect this information about trends, what would be most useful to you in terms of sharing the results?
- Workshop for purposing of interacting with the information.
- Workshops - give and take format - charrette style format - would need good graphics illustrating trends, e.g. shifting eel grass beds, changes in development patterns - how do we take advantage of these changes; combination of education and immediate feedback.
- Local community college – (i.e. Geology lecture series at SW Oregon Community College).
- Representatives from scientific and technical, Mark Hoscon - OSU, Paul Komar - Shoreline issues, Jonathan Allen – DOGMAI.
- Final Product: videos are more effective communication. Have a brief colorful brochure summary and a video where we talk to specific people with the backdrop, that is something that can play well in so many different forums that could play well to different coastal communities. All kinds of groups and organizations would be interested in that.

8. Other

Any additional comments?

- Most useful thing for the Coastal communities, how can they use their assets today, move their local economies toward self-sustaining. So many timber / fishing dependant economies, tourism is separate and smaller, and we need to have these communities look at what they need to become self sustaining, the state says, we are going to help you become self-sustaining.
- A key player/agency in the future – ODOT. The transportation infrastructure needs improvements and repairs. Hwy 101 crosses over many estuaries and shorelands. Must keep in mind that ODOT is a key player in the planning process as well as the state parks program. These players will help ensure that Oregon maintains a good sustainable environment for estuaries and shorelands.
- 1) Value of shoreline is key to leverage of economic possibilities. 2) How do coastal counties survive? 3) Day-long event (Coastal Caucus + some important types - develop an action agenda, 4) Are current investments lining up properly? What are the challenges/opportunities & how do we address? 5) Get notes on Arnie Robland Economic Summit event, 7) Estuary plans were one of most important successes of Oregon's planning process
- Don't expect local jurisdictions to take on climate change. It's too big to take on meaningfully. Would support the lead of the state or federal government to do something on sea level rise. They will respond in their own way, but they don't have the capacity to take the lead. It's a big challenge for local government who are full dealing with the tangible and day to day, and very hard for an intangible and something they have no control over.
- Plans are very outdated. Everyone knows it's huge to update them but this is a great first step.
- As a final product, would like to see the trends up and down the coast in total. Locals have to decide what part of that estuary is important to them and what part can be developed. And there has to be local input and have to have the science involved – to present a balanced opinion.
- Must have the local buy-in. and no one knows better than locals what happens through the seasons.
- What would happen to estuaries in the big subduction zone earthquake – if they are inundated completely. We must acknowledge that this is a reality and there is no plan B. You don't rebuild an estuary; it will change in every way.
- Second homes - need detailed assessment of trends. Will they be affordable in the future/ Goal 16 doesn't help - water dependent site protection its focus - needs to be rewritten, especially piece on water dependent protection; recreational uses/tourism need to be better accommodated. Breaking up estuaries into management areas remains good strategy. Change into State management areas aka Territorial Sea. Take local government out of approval role. Does local planning make sense? Approval process could be simplified if DSL process for example. Local governments really don't have much control over water. Shifts in fishing and timber industries is a significant one. Accommodating fishing drove visions / development of many communities - how to economically transition.
- Make sure we aren't too optimistic about what can happen in terms of economic growth on the coast.
- May glean some information from the West Coast Governors.
- In terms of the local economy, ties to the federal government. There are large grant funded projects from the NSF or DOE. The concern is how tied we are to it.
- Economic improvements are anticipated but not at the pace they were prior to recession.
- More focus on mass transit system along the coast – currently to dependent on automobile transportation.
- The one big thing that is changing / continuing to change is the way that planning is done under the Oregon program. As it currently stands, there are broad state goals and then local refinement. IT is not a system that works well with so many regional issues, e.g. like Coastal erosion hazards from rising sea level. Local planners can't do much with that. Right now – DLCDC and other state

agencies come up with grants and technical assistance, feed to local governments, and through carrot and stick measures, to deal with things like decreasing coastal hazards. We need to find a better way of integrating the planning on the Coast.