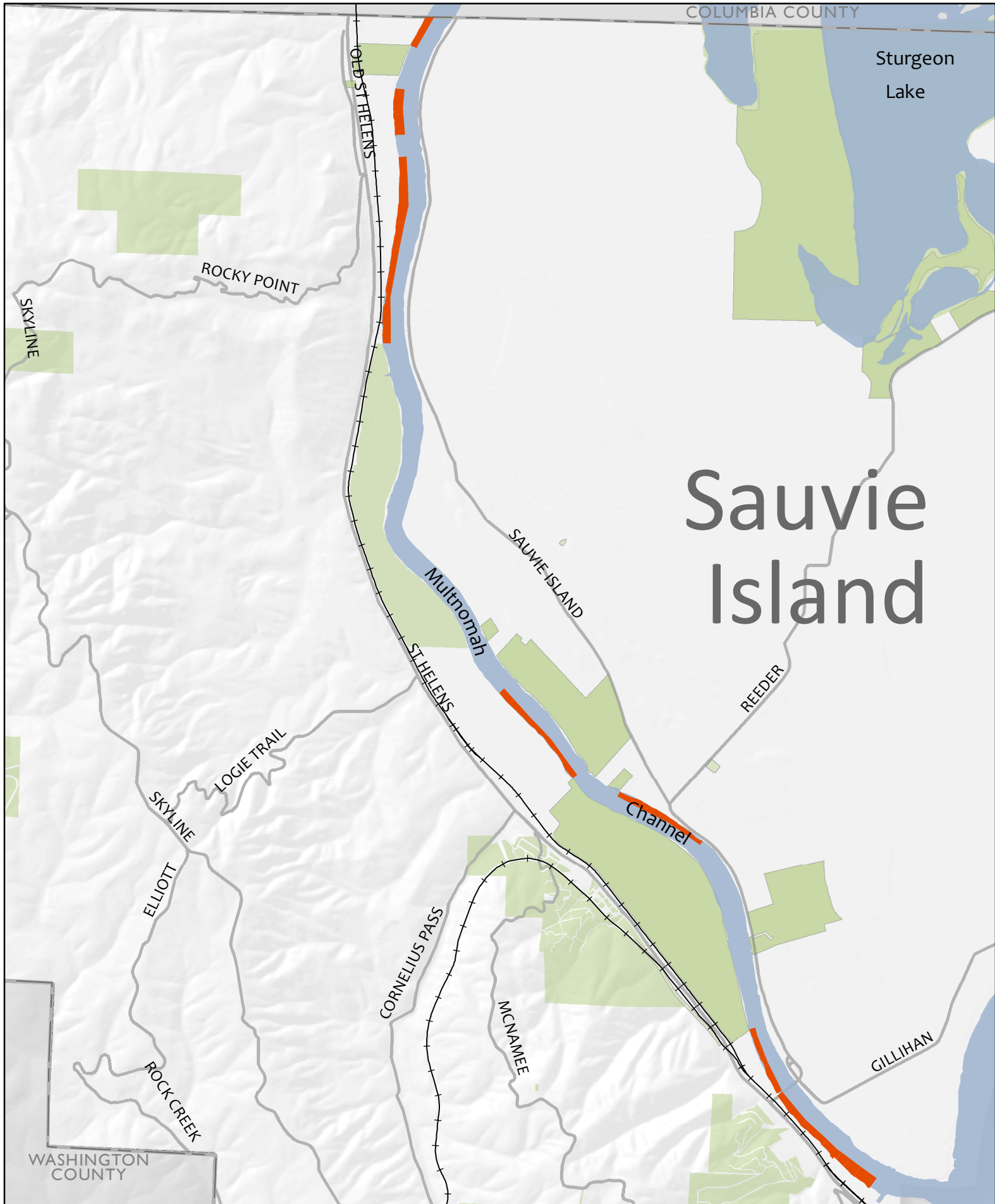


EXHIBIT 1



Sauvie Island

Multnomah Channel Moorage Boundaries

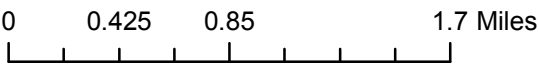
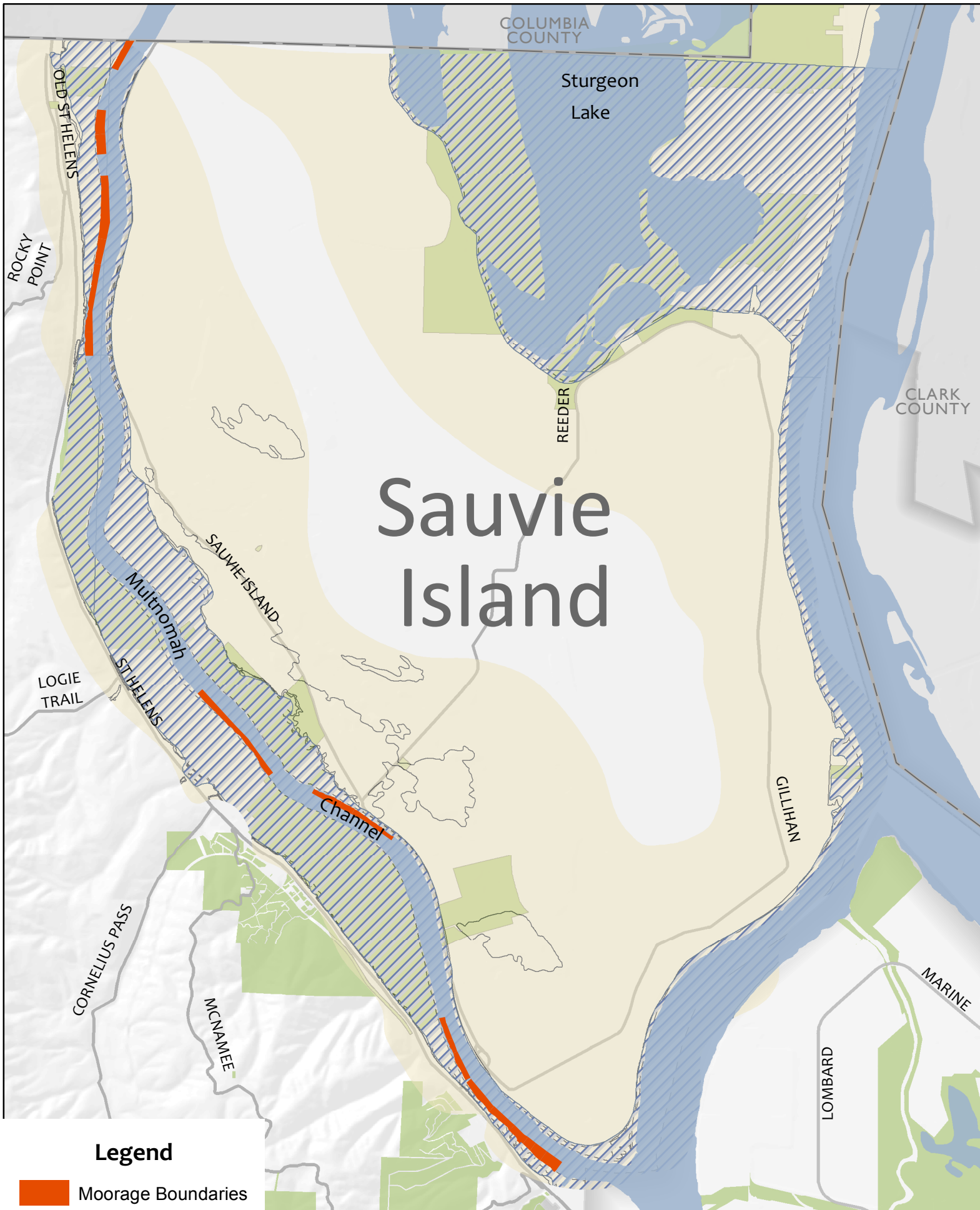





EXHIBIT 2



Legend

-  Moorage Boundaries
-  100 yr Flood-Plain
-  FEMA Flood Plain

0 0.45 0.9 1.8 Miles



EXHIBIT 3

COLUMBIA COUNTY

River's Bend Moorage Site
State
Private Vacant State
Casco's Moorage
Private SFR
Casco's Cove Moorage
Big Oak Moorage
Rocky Pointe Moorage
(Goal Exceptions, Case No. T4-08-001)
Rocky Pointe Moorage
Happy Rock Moorage
Private Vacant
Private SFR
Lucy Reeder Rd.
Saville Island Rd.
Oak Island Rd.
Wapato State Park

MULTNOMAH CHANNEL NORTHERN PORTION
WEST SIDE ZONED MULTIPLE USE AGRICULTURE
EAST SIDE ZONED EXCLUSIVE FARM USE

PROPERTY LINES
ROADS
RAILROADS
POLICY 26 MOORAGE BOUNDARIES
PROPOSED ADDITION TO POLICY 26 MOORAGE BOUNDARIES

NORTH

Logie Trail Highway 30

Rocky Pointe
Moorage
(Goal Exceptions,
Case No. T4-08-001)



MULTNOMAH
CHANNEL
NORTHERN
PORTION

WEST SIDE ZONED
MULTIPLE USE AGRICULTURE

EAST SIDE ZONED
EXCLUSIVE FARM USE

-
- PROPERTY LINES
- ROADS
- RAILROADS
- POLICY 26 MOORAGE BOUNDARIES
- PROPOSED ADDITION TO POLICY 26 MOORAGE BOUNDARIES
- Loge Trail Rd
- Highway 30
- Private Vacant

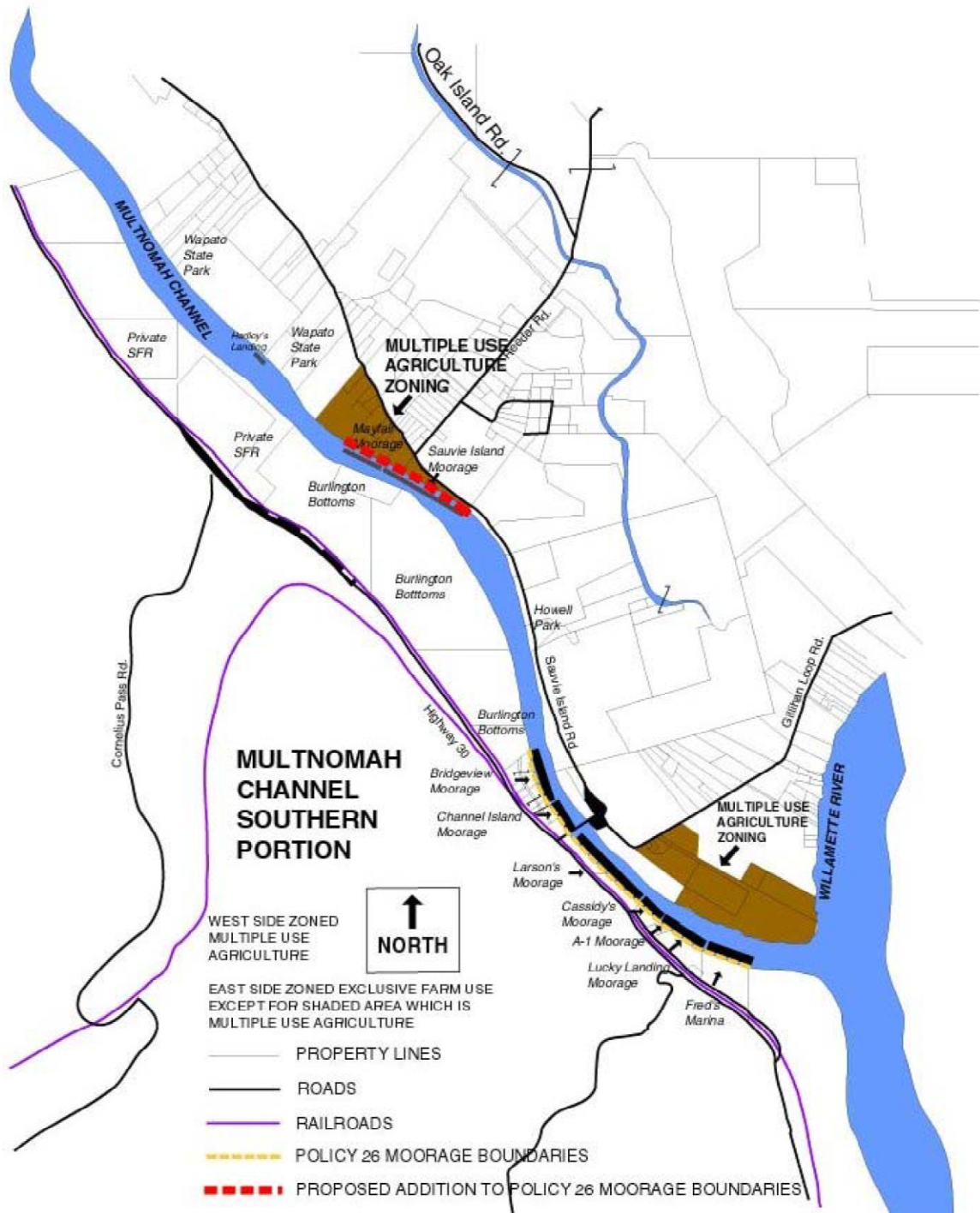


EXHIBIT 4

Area 9: Multnomah Channel

Rural Analysis

The Multnomah Channel area is a narrow strip of land that runs along the east toe of the Tualatin Mountains. It extends from the Portland metro UGB to the Columbia County line at the north extent of the Study Area, a distance of slightly over 8 road miles. The width of the strip between Highway 30 and the river varies between roughly 100 feet up to 1/3 of a mile at one point. This strip is considered as a separate area because the topography differs from the Tualatin Mtn. hillsides that begin at the west edge of the highway, and it is separated by Multnomah Channel from Sauvie Island on the east.

Rural resource land mapping for this area includes “foundation” land, although the area is not specifically discussed in the ODA study. The area is also mapped as “wildland” forest in the ODF study, and Natural Landscape Features unit #21 Forest Park Connections.

CAC Assessment: Low suitability for rural reserve

Staff Assessment: Low suitability for rural reserve

Farm and Forest Factors Evaluation

Rural Reserve Factors - Farm/Forest -0060(2)		Factor Ranking	Discussion/Rationale
2. Land intended to provide long-term protection to the agricultural or forest industry, or both.			
2a.	Is situated in an area that is otherwise subject to urbanization due to proximity to a UGB.	Low/High	Low for areas north of the Sauvie Island bridge, and high between the bridge and Portland. Areas rated low contain primarily floodplain, much of which is in public ownership, between Hwy 30 and the channel. The area south of the bridge is under study as a candidate urban reserve.
2b.	Is capable of sustaining long-term agriculture or forestry	Low	Little if any farm or forest management exists in this area.
2c.	Has suitable soils and water	Low	This rates low on these two capability elements because there is no protection from flooding and no drainage system resulting in too much water. The area supports significant wetland soil areas that are poor for agriculture and commercial forest species as a result.
2d.	Is suitable to sustain long-term agricultural or forestry operations, taking into account:		
2d. (A)	Contains a large block of farm or forest land and cluster of farm operations or woodlots	Low	No blocks of farm or forest operations are found in this area.
2d. (B)	The adjacent land use pattern, including non-farm/forest uses and	Low	Nonfarm/forest uses predominate along the channel, and the narrow width between channel and road would result in close un-buffered

	buffers between resource and non-resource uses.		proximity to farm/forest uses if those were present.
2d. (C)	The land use pattern including parcelization, tenure and ownership	Low	While the strip is made up of large parcels, especially in the central section, perhaps $\frac{3}{4}$ of the area is owned by public entities rather than by farm or forest managers.
2d. (D)	Sufficiency of agricultural or forestry infrastructure	Low	The area would need protection from flooding, however cost and inconsistency with assumed management objectives of public owners indicate this infrastructure is not likely to materialize.

Rural Reserves Factor -0060(4) Foundation or Important agricultural land within 3 miles of a UGB qualifies for designation as rural reserve.			
	Foundation	Yes	
	Important		
	Within 3 miles of a UGB	Portions	3 mile line crosses Hwy 30 north of Cornelius Pass Rd.

Staff Summary and Conclusion – Suitability for rural reserve to protect farm and forest resources:

This area is not farmed or in forest management, soil and water conditions are low without substantial infrastructure, and major ownership is assumed to have other management objectives.

Landscape Features Factors Evaluation

Rural Reserve Factors - Landscape Features -0060(3)		Factor Ranking	Discussion/Rationale
3. For land intended to protect important natural landscape features, consider areas on the Landscape Features Inventory and other pertinent information and consider whether the land:			
3a.	Is situated in an area that is otherwise subject to urbanization due to proximity to a UGB.	Low/High	Low for areas north of the Sauvie Island bridge, and high between the bridge and Portland. Areas rated low contain primarily floodplain, much of which is in public ownership, between Hwy 30 and the channel. The area south of the bridge is under study as a candidate urban reserve and therefore ranks high.
3b.	Subject to natural disasters or hazards such as flood, steep slopes, landslide	High	The strip consists of unprotected floodplain.
3c.	Has important fish, plant or wildlife habitat	Medium	Areas north of Sauvie Island bridge appear to have high habitat values. However riparian areas south of the bridge have been impacted by moorage facilities, and there are limited wetland areas.
3d.	Is necessary to protect water quality such as streams, wetlands and riparian areas	Low/Medium	North of the bridge is low - significant wetland/riparian areas exist north of the bridge, however the area is not suitable for urban reserve. South of the bridge is medium - few wetland areas are mapped south of the bridge, and remaining riparian areas would receive additional protection

			should the area be urbanized.
3e.	Provides a sense of place to the region	Medium-Low	North of the bridge – extensive wetland areas are in public ownership and may be recognized in their own right, or as associated with the channel. South of the bridge – area does not have sense of place recognition.
3f.	Can serve as a boundary or buffer to reduce conflicts between urban and rural uses or between urban and natural resource uses	Low	The strip does not form an edge between urban areas and rural resources.
3g.	Provides separation between cities	Low	At roughly 8 miles apart, Portland and Scappoose are separated by distance rather than by this area.
3h.	Provides easy access to recreational opportunities in rural areas such as parks and trails	Low	Recreational opportunities in this area of the region are primarily located on Sauvie Island or in the Tualatin Mtns above and to the west.

Staff Summary and Conclusion - Suitability for rural reserve to protect landscape features:

Except for the area south of the Sauvie Island Bridge, the length of this strip of land is not considered potentially suitable for urban use and therefore is not in need of protection. Primarily habitat values are high north of Sauvie Island Bridge; however extensive wetlands, limited land area, lack of protection from flooding, and large areas in public ownership protect the area from urbanization. Habitat is impacted south of the bridge, and that area isn't recognized as a place-defining area in the region. Should the area be included within urban reserve, riparian habitat values are likely to be improved through the development process. The area is included within areas mapped as foundation land; therefore an alternative recommendation of "safe harbor" reserve designation could be explored further.

Urban Analysis

The Multnomah Channel area is a narrow strip of land that runs along the east toe of the Tualatin Mountains. It extends from the Portland metro UGB to the Columbia County line at the north extent of the Study Area, a distance of slightly over 8 road miles. The width of the strip between Highway 30 and the river varies between roughly 100 feet up to 1/3 of a mile wide at one point. The strip is considered as a separate area for urban and rural reserve because the topography differs from the Tualatin Mtn. hillsides that begin at the west edge of the highway, and it is separated by Multnomah Channel from Sauvie Island on the east.

The area was further divided by the CAC at the Sauvie Island bridge into the north portion that was not studied for urban reserve, and the area between the bridge and the City of Portland that was. The CAC found that the results of the initial urban suitability assessment for key services water, sewer that indicated low suitability for these services warranted no further study of the north area. The area south of the bridge was retained for further analysis due in part to lack of consensus by the CAC on service potential.

CAC Assessment: Low suitability for urban reserve

Staff Assessment: Low suitability for urban reserve

Urban Reserve Factors -0050 (1) – (8)		Factor Ranking	Discussion/Rationale
When identifying and selecting land for designation as urban reserves under this division, Metro shall base its decision on consideration of whether land proposed for designation as urban reserves, alone or in conjunction with land inside the UGB:			
1.	Can be developed at urban densities in a way that makes efficient use of existing and future public and private infrastructure investments	N. of Sauvie Island Bridge LOW	Transportation – Unranked. Sewer – ranked along with part of NW Hills as difficult. Most similar to Sauvie Island – moderately efficient with capacity at Columbia Blvd. waste water plant. Water – ranked along with NW Hills as low suitability. Efficiency appears low due to limited land supply – extensive areas of public ownership.
		S. of Sauvie Island Bridge LOW	Transportation – difficult to provide access to Hwy 30 due to rail crossings and expressway designation. Sewer – ranked along with part of NW Hills as difficult. Assume most similar to Sauvie Island – moderately efficient with capacity at Columbia Blvd. waste water plant. Water - ranked along with NW Hills as low suitability. Efficiency appears low due to limited land supply outside of floodplain and access difficulties.
2.	Includes sufficient development capacity to support a healthy economy	LOW	<ul style="list-style-type: none"> • Position lends itself to industrial use due to it being bracketed by rail and river, however there is only a small land area outside of flood/right of way = approx. 7 acres. • Shape is a narrow strip along the river, with floating homes established along the entire frontage. • Transportation constraint re rail crossing/hwy 30 access.
3.	Can be efficiently and cost-effectively served with public schools and other urban-level public facilities and services by appropriate and financially capable service providers	LOW	See key services efficiency information under 1. above No assessments for schools, stormwater, parks. Service provider for this area assumed to be Portland.

29B Area 9: Multnomah Channel

4.	Can be designed to be walkable and served with a well-connected system of streets, bikeways, recreation trails and public transit by appropriate service providers	N. of Sauvie Island Bridge LOW	<ul style="list-style-type: none"> • Small size and linear shape of this area does not lend itself to mixed uses and walkable, community. • Location and extent of public ownership divides the entire approximately 7 miles of the north strip into isolated small, linear pockets of land.
		S. of Sauvie Island Bridge LOW	Small size (7 acres) and linear shape of this area does not lend itself to mixed uses and walkable, community.
5.	Can be designed to preserve and enhance natural ecological systems;	LOW	The north part of this area has high ecological values associated with wetness, a condition that would need to be corrected to provide opportunities for urban development.
		MEDIUM	Mult. Channel riparian area is impacted at this time and could be restored through urban development permit requirements - some impacts would be expected at river access area(s).
6.	Includes sufficient land suitable for a range of needed housing types	LOW	<ul style="list-style-type: none"> • Most all of the north 7 miles is in unprotected floodplain. • Very limited amount of buildable land - approximately 7 acres south of the bridge. • Suitability for housing is a question due to relationship to rail lines.
7.	Can be developed in a way that preserves important natural landscape features included in urban reserves	N. of Sauvie Island Bridge LOW	To the extent this area has landscape features recognition, urban development would apparently have unavoidable impacts from new structures.
		S. of Sauvie Island Bridge YES - MEDIUM	<ul style="list-style-type: none"> • Area not an important natural landscape feature- no sense of place recognition. • Mult. Channel riparian area is impacted at this time and could be restored through development permit requirements - some impacts would be expected at river access area(s).
8.	Can be designed to avoid or minimize adverse effects on farm and forest practices, and adverse effects on important natural landscape features, on nearby land including land designated as rural reserves.	YES, MEDIUM	Strategies to minimize adverse effects on adjacent resource uses appear limited, and the same for both north and south areas, e.g. avoidance of floodplain/riparian area would mitigate development impacts.

Staff Summary and Conclusion:

Both the north and south portions of this area rank low for urban reserve due to the limited land area and physical constraints of floodplain and heavy rail right-of-way. Extensive public ownership indicates value of the area is not primarily associated with development opportunity. Even if sewer and water services were efficient, these other limitations indicate low value and priority for urban reserve.

EXHIBIT 5



Kevin COOK <kevin.c.cook@multco.us>

Park & Public Facilities

Christopher H. Foster <foster@europa.com>

Tue, Dec 10, 2013 at 2:33 PM

To: Kevin COOK <kevin.c.cook@multco.us>

Hi Kevin-

Still think it belongs in Parks & Public Facilities. I might be overly cynical, but the floating home group might reasonably be expected to be looking to protect themselves rather than the public at large esp. considering the complexity of their unresolved issues at hand already. On another point, the waterway/ beach issue goes well beyond Columbia County. As navigatable rivers , everything on the Columbia & Willamette up to the ordinary high water line is public and open for fishing, picnicing & general recreation. All the beaches are lawfully accessible from the water. Over time, there may also be private lands opening up and giving new access to the beaches & water in Multnomah County . Maybe there should be some policy in place that goes beyond the inventory approach. .

Chris

On 12/10/2013 10:47 AM, Kevin COOK wrote:

Hi Chris,

I understand your concerns and there are lots of overlaps among the subcommittees. We believe the issues will be well-covered by the natural resources and marinas subcommittees. The public beaches are included in the inventory – along with parking that serves the public beaches as part of the Sauvie Island Wildlife Area since that is where the public beaches are located. The publicly accessible to the public are in Columbia County except for about 1500 linear feet that extend into Multnomah County (parcel is owned by DSL but is adjacent to SIWA beaches in Columbia County). Our facilities inventory and map is in draft form and we expect to add more information regarding the other publicly owned properties.

Kevin Cook

Planner

Multnomah County Department of Community Services

Land Use and Transportation Program

1600 SE 190th Ave, Suite 116

Portland, OR 97233

P 503-988-3043 x26782

F 503-988-3389

kevin.c.cook@multco.us

On Thu, Dec 5, 2013 at 12:26 PM, Christopher H. Foster <foster@europa.com> wrote:

Hi Kevin-

Upon reviewing the various subcommittee titles and their scope - in particular the Park & Public Facilities background report inventory - I wondered if the publicly owned waterway (i.e the Channel) ought to be included here. In essence, the waterway and any legally accessible beaches function in much in the same way as any of the public park in being utilized for recreation- both passive and active. Why not have policies here? Given the distribution of technical expertise among the committees, it also seems best suited to have that conversation with this subcommittee. OFWD and Metro (a major owner of shoreline due to recent aquisitions)

are present here, whereas they are not both present at other subcommittees. I also noticed the Metro properties on the mainland side of the Channel are not in the inventory.

I think a broad public waterway policy discussion is not appropriate to the narrower interest of "Floating Homes and Marinas", nor does it logically fit under the broader umbrella of the "Natural Resources" committee any more than any individual park /public facility or entity would. Follow?

I'm Interested on any thoughts you may on capturing this.

Chris

EXHIBIT 6.A



Kevin COOK <kevin.c.cook@multco.us>

Open House on January 6, 2014

Mark Doyle <mdoyle@georgefox.edu>

Sun, Dec 22, 2013 at 11:00 PM

To: Kevin COOK <kevin.c.cook@multco.us>

Kevin,

Attached is a description of live-aboards on the Multnomah Channel addressing some of the issues discussed at the meeting. I am writing it as someone who almost lives aboard with honest intention to simply present the facts. I will send you more data as I find time to write it up.

I have spoken to many folks this week about the open house. I hope it will be informative.

Peace,

And have a Very Merry Christmas and New Year!

Mark

[Quoted text hidden]

2 attachments



BethSails.jpg

968K



Multnomah Channel Live-Aboard Summary.docx

22K



EXHIBIT 6.B

Live Aboard Concerns on the Multnomah Channel

My wife Beth and I had a dream in 1988 to sail across the ocean at retirement. While working toward that goal, we planned to live on our boat in the Multnomah Channel. We decided that a house with a workshop would be a better plan. We have had 9 boats on the Channel over the past 25 years. I am writing this to give you an idea of what life on the Multnomah Channel is like.

Because we have kept our boats at nearly all of the marinas in Multnomah County with live aboard and floating home resources, we personally know most of the population currently living on boats. This is a community that we consider family, and are represented by the Sauvie Island Yacht Club and Brothers of the Gilbert. I have begun to collect the data of how many residents are living on boats in the marinas.

This is the reason I offered to take folks for a sail along the Channel at the beginning of the scoping process. I did give several pictures of these boats to Maia, but I have more if you wish. The Multnomah Channel is far more complicated than the last meeting topics covered. I will write out my observations for you to use as a reference.

The live aboard community's assets and pitfalls are not being accurately described or represented in the meetings I have attended. One reason is that there is a great fear among this community that they will be forced to move and give up their life's accomplishments. In recently talking to folk regarding the planning process, I have heard multiple times that folks living on boats in the marinas are illegal and that Multnomah County should evict them. This is an uncomfortable situation, but I think that I am in a position to simply describe the unique features of the folks who live in boats, within the current live-aboard marinas as accurately as I can, from personal experience. This first letter will describe life at Big Island.

There are 16 live-aboard sailboats at our marina that are occupied full time. There is a small floating shop with a 10' x10' layout table for sewing sails, pattern making, a drill press and general tools for boat building and refitting. Many of the offshore live-aboard sailboats are the result of decades of work in preparation for long distance cruising. Some of the boats are older and have been handed down through generations, and are being refit with modern upgrades. Many of these folks are systematically building repairing, and preparing for their next ocean cruise.

There is a 72 year old fellow currently at our marina with his 46' Formosa that he has sailed around the world. This past summer we helped him rebuild his 80 foot cedar masts so he can once again share the ocean with his son. I think the comment on "sailboats without masts" was directed to someone other than a person who has a circumnavigation under his belt. Akin to a barn raising party for the Amish, large projects are taken on by the community's collective experience, and at this marina, the knowledge base is vast.

Some of the sailboats are extremely expensive in that they represent years of preparation to safely take them offshore, however, due to our temperate, rain forest climate, some have growth on them that discolors the gel-coat, and thus looks unsightly. It is the general policy to NOT wash the superficial growth on your boat as you would a car because the detergents go directly into the water. This makes a stunningly beautiful sailboat look unkempt, but it is preferable to contaminants in the water. Many of the boats have fine teak or hardwood bright work that is designed for a salt water environment. On the Channel however, these hardwoods are more prone to breakdown from algae and ultraviolet light. The best way to protect the wood is to cover it during the rainy season, with a tarp. This also lengthens the time between washes, or refinishing.

Most of the live aboard community is very concerned about the ecology of the channel where they live, and can identify every species of native plant and animal. During the summer the visiting kids spend most of the time exploring the riverbank and all that mud beholds. We are also very proactive stewards of this ecology that supports us, akin to lawn and garden care, except that protecting the river bank does not spew the exhaust from the droning of a lawn mower or leaf blower(smile). This includes removing invasive Ivy and blackberries, but also keeping a life list of the birds and reptiles seen bobbing around the shore. We are vigilant about the zebra mussels and many provide data for research projects.

Watercraft capable of serving as a residence have fresh and waste water plumbing, electrical, heating and cooking systems that are designed to be **self-contained and ruggedized to withstand the stress and vibration from water transit. At sea, a plumbing failure could cost you your life.**

Most of these systems are extremely efficient using solar and wind for electricity, scrubbing thermal energy from most internal systems, and recycling fresh water for multiple uses. Drinking water at sea is very precious, and many of the sailboats at our marina have water makers that desalinize with reverse osmosis then use pressure filtration driven by the propeller shaft when the engine is running, or under sail, as the propeller turns with making way. Alternatively, a separate DC electric motor will run the water maker should the prop get fouled, or seizes.

Cheshire's shower recirculates two quarts of water, then stores the water in a grey water holding tank before discharge. Cheshire's hot water is heated by her carbon fiber masts, and a water heater that uses the engines cooling system, the refrigerators compressor, the propane oven, and both, but independently wired AC and DC electrical systems. Very little energy escapes attention on most of the live-aboard sailboats.

Waste discharge is not only against state and federal law, but contaminates the place we live. Many offshore marine heads (toilets), like Cheshire, have a 3" gate valve that can redirect the waste from the holding tank to a siphon break loop that extends 3 feet above the water line, then down to a 3" through hull fitting with a ball valve that permits discharge directly into the water, when opened.

The siphon loop has a low pressure venting check valve to allow air to enter or leave the system and

thus prevent a siphon that can cause the boat to sink. The through hull fitting is below the waterline. In Cheshire, if the waste is diverted through the 6 foot siphon break system and into the water, the siphon vent makes the whole cabin Stink! More importantly, the law requires that the diversion valve and the head 'through hull' be locked in the closed position.

Most boats in the live aboard community are equipped with holding tanks, macerators , or composting toilets such that the likelihood of waste discharge is minimal. It should be stressed that in these living circumstances you choose to be in close quarters with many things, and waste is the least pleasant of the lot. All of the marinas we have lived at have facilities connected to a sewer or drain fields. Folks predominantly use the land side restroom as it is much easier to live with. But, this lifestyle is such that we take our homes, and go sailing for days, so onboard heads require attention. There is only one public pump out station on the Multnomah Channel within Multnomah County, and that is at Rocky Pointe. This gives Rocky Pointe the monopoly of service, forcing boats to travel there. A pump-out station at Fred's or other marinas would be invaluable!

This past summer we helped four boats at our marina rebuild their heads with American Boat and Yacht Council (ABYC) approved composting toilets that separate urine and non-sterile waste, and then use a combination of peat moss species that turn the solid waste into soil. This is the system of the toilets at Hadley Landing and Coon Island.

This does bring up a very important point. There is continuous river traffic of smaller watercraft along the Channel that do not have facilities to properly dispose of human waste, and as the river sheriff pointed out, use a bucket. There is a joke where two fishermen in a boat find a Jeanie whom grants three wishes. One wish is that the river would turn into beer. When granted, the small craft pilots realize that now, they would have to pee in the boat (smile).

In the summer, most of the folk at our marina swim in the water we live on. The live aboard marinas are akin to an apartment building with multiple common use areas. Discharging waste into the Channel would be akin to pooping in the elevator or lobby of an apartment complex (smile). That said, there are two cat sized dogs, two cats, and one black lab that live at our marina. We generally frown on discarding pet waste into the water and it is usually sent into the dumpster. We really frown on any activity that alters water quality.

One very important safety consideration unique to living aboard a boat is Fresh Water Electrocutation (FWE). Beth and I were close to a family living at what was Casselmans Marina on the Multnomah Channel. We purchased and moored Cheshire here before we refit her the first time at Rocky Pointe. Unfortunately, 12 year old Lucas Ritz died from one type of fresh water electrocution. His dad, Kevin Ritz has become one of the nation's experts on this topic and marine wiring and has a very useful website here:

<http://www.electricschockdrowning.org/>

Although the wiring fault that killed Lucas was several slips away from ours, the incident revealed to us that some wiring 'stop-gaps' from Cheshire's previous live-aboard owner, in response to the faulty marina wiring, was capable of creating a DC current path through the water. We immediately ripped out all of the "repairs" that also caused enough unseen electrolytic damage to the engine that it failed on Columbia Bar. I had to replace the entire engine.

Proper shore power grounding (bonding) so that no electric current can travel through the water is imperative for all dwellings on the Multnomah Channel connected to the electrical grid!

The repairs to our boat were simple and relatively easy to find, as there are American Boat and Yacht Council (ABYC) and Coast Guard standards for ruggedized Marine wiring. However, many of the floating homes are wired to the grid with little standards to follow, or inspection.

This is the topic I introduced at the meeting. Kevin Ritz has many resources regarding this topic, and has spent time with the Mult Co. Sherriffs office and Fire Dept teaching on FEW, but these are specifically targeted to boats connected to shore power in marina slips. Below is a brief description using Cheshire as an example.

Almost all of the cruising boats use a 12 or 24volt DC system similar to a car. The batteries provide the DC current for the electrical equipment in the boat, and are charged by an alternator, solar, wind and water when the boat under way. Most of the live aboard cruisers use shore power from a receptacle at the slip. Some boats have a separate, and dedicated 120v AC system that powers fixtures as you would find in a home, or floating home. But most boats use the high voltage AC shore power to continuously charge the 12 V DC batteries. As an example, Cheshire has a 12v DC refrigerator and water heater. We use these while connected to shore power. Unlike a car connected to a home battery charger, marine 12 volt systems ground terminals often have electrical contact with the water.

For a sailboat, the DC ground wire is connected to each metal fixture that passes through the hull to the water, such as the propeller shaft, water intakes for the engine coolant, etc. This is typically wired with a 10ga Green Wire, serving as a lightning rod to dissipate charge at the mast head, and improve radio reception among other things. This connection to the water can also act as an electrical path to ground if there is an electrical fault in the boat, especially when the proper bonding via the shore power connection is inadequate.

Current technology has multiple solutions to minimize this hazard including: ground fault circuit interruption (GFCI) on all AC receptacles WITHOUT isolation transformers and smart marine battery chargers within the boat; and Shore power connections to each slip with Equipment Leakage Circuit Interruption (ELCI) and most importantly, AWARENESS! This is why I am writing this (smile).

I will continue after I see you at the next meeting. If you would like a tour of the marina, let me know.

EXHIBIT 7

Hi All,

I am so sorry that I will not be at the meeting tonight. However, I have reviewed the 64 page document and have the following comments. Emails have a tendency to be harsh and without emotion so do forgive my directness, but I know no other way to convey my concerns.

Beginning with the Historical context and the statement in quotes "... little other than agricultural development has occurred on the island. The Channel is a peaceful waterway featuring quiet moorages, lush vegetation, song birds and waterfowl."

Regarding the island, where is the mention of a sawmill, an animal pellet factory, an Esco waste dump area, grocery stores, large farms which bring thousands of customers to the Island for produce, crafts, special foods made on the premises, hayrides, corn mazes, petting zoos, school field trips and everything else that goes along with today's agricultural farm makeup. These events also plug up the inadequate roadways for hours upon hours on weekends, esp. What about all the public beaches that also draw people from all over Oregon that clog up the roads again during any warm weather and make it next to impossible for residents and safety vehicles to travel the road system. This is not depicted in the quote above. We need to get real here.

The Island also lies directly across the Willamette from Portland's largest container port, a coal terminal and altogether one of the largest industrial parks in the state. The noise and basic pollution that comes from this area directly impacts the southern tip of the Island all the way to the Columbia.

Regarding the Channel, it is a navigable waterway of the State of Oregon. It is a commercial highway for tugs, barges, log rafts in addition to all the recreational activities from salmon fishing to jet skis to kayaks to every size of boat to yacht. They all use the waterway and travel it at various speeds. There are gas docks, convenience stores, launch ramps, restaurants that draw the water-loving public to the area. The Channel is a salmon fisherman's paradise. From February to June from 4:30 am to dusk, the Channel is swarming with fishermen and they are far from "quiet". Summer brings water-skiers, jet skiers, and all the other water toys available which require speed to perform. They too are not so quiet. The floating home community is a cohesive group who enjoy their lifestyle and the camaraderie that goes with it so to say these are quiet, serene moorages can be a bit of a misnomer. Of course these are quiet most of the time, but to make it sound like nothing ever happens but the flapping of butterfly wings and the quacking of ducks is a bit misleading to people who are unaware of water living.

Whoever wrote this "Historical Context" does not have a true picture of what Sauvie Island or the Multnomah Channel is really like, esp today. This introduction needs to be reworked to represent what actually happens to be these areas today. DO NOT present a "ethereal concept" to try to sway the uninformed public.

Page 11---Marinas DO NOT "rapidly" change owners and names. Most of these moorages have existed from the early 30's, 40's and 50's and are currently owned by multi-generational families.

Page 13---The comment "in water shading" has been proven to be bad science and should be removed from this report. If shading is such a fish issue, why does ODFW put trees, etc. into streams and rivers to provide cover for baby salmon. The Cormorants and Osprey sit in wait on the dolphin tops, even making their nests there along the stretch of unprotected shoreline along the dike road on S.I. and wait to eat the salmon smolt that are trying to get out to the ocean. There are no "eating" issues within the moorages because the fish can hide from their attackers. This claim of shading is another extreme scare tactic that is NOT proven science and should be removed from this report.

Page 20---Policy 6A

If the Rural Reserve is to protect Ag land, forest land and important landscaper features, marinas and moorages are NONE of the above. The true question is WHY are these high density

residential marinas and commercial entities overlaid by the RR? Fred's Marina is half inside and half outside the UGB. Why are they included under the RR overlay at all?

Page 21---Marina/Moorages are not totally quiet all the time. If they have launch ramps, motor-powered boats, gas docks, convenience stores with hours to accommodate the fisherman or the late summer traffic, these places are far from "quiet".

Page 22---Erosion Control

Erosion control is a natural consequence when structures prevent the damaging waves from passing vessels from reaching the shoreline. If you travel up and down the channel, the erosion of the banks are severe in areas where they are unprotected to the point of bank undermining and trees falling into the channel.

Policy 9

The Channel is a navigable waterway of the State of Oregon. It is used for commercial and for recreational purposes. Variable motor noises are going to irritate people at different levels. Noise on the water travels differently, as well, so basic conversations in boats can often be heard perfectly from completely across the waterway. To try to monitor these normal noises on the water and hold people accountable will be an impossible endeavor. Only education of waterway users will work in the end.

Page 28---Policy 13

"Marina Special Areas".

This overlay, from a cursory look, should be applied to the marinas along the Channel. This would begin to help with the existing confusion that all marinas have been burdened with since 1997. The next step would be to remove the RR designation from all Channel marinas.

Page 30---Cumulative impacts

"Special Plan Area"

Marina/moorages within all of Multnomah Co. should have some kind of designation such as these "special plan areas". However, they need to be designed specifically for the particular area the marina/moorages occupy. On the surface, this looks like a viable approach to getting the consistency needed for the water communities within Multnomah Co. The major stumbling block, though, is the existence of the Rural Reserve overlay on the Multnomah Channel.

Page 33-34

Conditional Uses---

As in most of my comments above and AGAIN, here, Multnomah Co. says a zone change is not required to redevelop existing marinas, then in the next sentence, says redevelopment may not be permitted due to the RR overlay. I hope everyone is seeing this teeter-totter we are all on. It is more and more apparent that decisions CANNOT be made until the Rural Reserve overlay issue is fully addressed by the county and state authorities above Multnomah Co. Staff. All our efforts to try to "guess" what MIGHT happen seems like an exercise of futility. We need a solid base to start from and then we can move forward and provide the water community a workable, consistent, established framework that they can depend on from here to the next SIMC review and update years into the future.

Page 48---(49) "Non-Marina Uses"

I know there are certain factions that would like all of the marina/moorages to disappear. However, water living has been a choice for citizens for over a hundred years. It has grown and matured from a ramshackle structure built on some logs tied to a piling to multi-million dollar docks and structures that accommodate floating homes, boathouses, commercial use buildings and covered moorages that cost hundreds of thousands of dollars. This is NOT a use that is going to become extinct anytime soon. Therefore, to say that these structures that are built to float and serve the ever-growing water community are Non-water dependent is like an ostrich putting its head in the sand. These are water dependent because they cannot be removed from the water and exist on land as built.

Page 51---Section 7

SIMC Vision

Please, let's rework this "warm and fuzzy" vision statement. Let's tell it like it is as I described in the beginning of this email. This is a Navigable water of the State of Oregon in a Metropolitan area where hundreds of thousands of people use the waterway annually for a myriad of activities, not a sleepy, meandering stream somewhere in the back country.

Page 52---#1-Policy 10 and Larson's

My question is why does Larson not have to meet the parking requirements for his 46 approved floating homes---2 spaces, paved, water runoff plans, etc. We all would like to know how he approached this redevelopment so other citizens may take advantage of this county procedural path.

Page 53

Policy Issue

Marina/Moorages along the Channel have been unfairly overlaid with a restrictive plan to keep them from being able to redevelop, reconfigure, remodel or upgrade within their existing footprint. For whatever reason this happened when we were all told at a meeting that we were going to be excluded from this overlay seems like maybe it happened accidentally. I would only hope that was the case. Since water is not agricultural land by definition and the high density living which is part and parcel of floating homes and boat moorages, the reasoning behind the RR does not apply. To allow the waterfront community to redevelop, reconfigure etc., to keep up with the demands of society and maintain their businesses as a viable entity in Portland's tax base seems like the best possible choice. If a waterfront owner would choose to change their current use on the water from a large boat storage facility to a floating home Moorage, this change would most likely decrease the demands put on the waterway and parking areas along the water. The decrease would come when hundreds upon hundreds of fisherman who trailer their boats, use the launch ramps from before daybreak to dusk for months at a time. The decrease would also come from the downsizing of dock requirements for 200 plus boats and the boats themselves. It is a known fact which is next to impossible to control that in water boats have automatic bilge pumps that come on whenever there is enough water accumulated to present a problem. This expelled water is most likely oil and or gas laden and goes into the water unchecked. If you think of all the In-water boats, then add boats coming off trailers with the same issues, again emptying into the River, plus the number of boats with holding tanks for gray and black water that indiscriminately empty into the River due to the sheer lack of adequate pump-out stations, then trading out floating homes which are built under codes, have attached septic systems that are monitor-able and because of their size, the sheer number of them are multiple times fewer in number which also decreased traffic demands, railroad crossing demands, etc., this change in use seems like a more viable, environmentally friendly adaptation.

I hope you all understand that we want to work with and not against the agencies to come to a viable conclusion for Multnomah County's waterfront community. This is going to take both sides coming together to making some hard decisions. Let's do it now and let's do it right this time.

Cherie Sprando

EXHIBIT 8



Kevin COOK <kevin.c.cook@multco.us>

Marinas Floating home/ Live-aboard Comparison

2 messages

Mark Doyle <mdoyle@georgefox.edu>

Wed, Feb 5, 2014 at 3:40 PM

To: "kevin.c.cook@multco.us" <kevin.c.cook@multco.us>, Maia HARDY <maia.hardy@multco.us>

On Wednesday, February 5, 2014, Mark Doyle <mdoyle@georgefox.edu> wrote:

Kevin,

Well, there is a lot of discussion stirred in the live-aboard crowds. There will be several attending the next meeting along with Tracy (the gal sitting behind me at the last meeting).

These folk have twisted my ear, and below are some of their concerns and ideas. I do think that there should be a policy for live-aboards as they have much less of an ecological impact than a floating home, and are designed and built to be water dependent. I will try to answer your questions on the difficulties you presented on writing policy for live-aboards from the tenants answers to my questions.

I will only use our marina as an example because it is the only marina with true live-aboard permits, and also so I can speak from personal experience. Beth and I do choose not to live-aboard for ecological and functional (health) reasons, and I have been outspoken about this. I am not the most popular fellow at our marina just now, but I am honest, and these friendships have been through worse. The discussion is honest, and productive.

1) Density and an Urban Designation.

There are 21 live-aboard residents at our marina (I missed some folks in my last count), 8 couples and 5 individuals occupying a total of 13 slips. Each slip is around 16 feet wide in the water with 3 foot finger piers on either side and 40 foot long with a 30 degree cant toward the downstream. There are 33 slips total including the inside but these are no longer occupied by live-aboards. For privacy, the natural slip occupation places as many non-live-aboard slips as possible between each live-aboard slip. Across the entire marina, the occupation density is actually less than the floating home marinas on either side.

Also, they are boats. Live-aboards are mobile. You mentioned writing a policy to space boats apart to maintain a certain population density. This can be spaced tomorrow as all we need to do is untie them and move them. You also mentioned allowing occupation for only a certain period of the year as Beth and I do, or requiring them to move to another location, as in transient moorings.

This actually happens naturally due to the nature of this lifestyle. During any given month, at least three of the live-aboard boats go mini-cruising due to the availability of a three day weekend or holiday. Unlike driving to the beach, we take our house with us, and do stay away for extended periods. Most of the live-aboards dream and plan of getting the hell out of dodge by taking to ship, and most of us do this every chance we get. We pay large sums of money to get wet and move slowly away, perhaps only a little faster than you can walk, but away. Sailing around Sauvie Island is beautiful, and there are several places to anchor for a few days, or hours, even if it is to tie off in St Helens so you can drive to work the next day. For Beth and I, we have found a lifetime of exploration just around Sauvie Island or from Portland to Astoria. Live-aboards are mobile.

Every three months or so there are cruises (events) by the Sauvie Island Yacht club or just groups of boaters including live-aboards. These events carry away most of our marina, live-aboards, and live-aboard wannabe's like Beth and I, to sail seriously 20 whole miles, or perhaps 400 yards to Hadley Landing, for a cruiser's get

together. I have earned warm beer by asking "Don't you guys just live down the dock from each other, just over there?" My point is that a floating home will never leave it's slip, and that the live-aboard residents have a lower population density with respect to time, as they leave often throughout the year.

2) Water Dependency

Boats are designed, and built, to be for, and in the water, including construction that is ecologically friendly to an aqueous environment.

We have some contractors that live at our marina, and they had a lot to say about floating home construction within the two floating home marinas on either side of ours, including suspended electrical conduits and other safety concerns. I figured I would give you a head's up. I did get a well deserved wrist slap from an electrician live-aboard for taking Cheshire out of her slip without shutting off our shore power. I respect that honesty, and he was correct. I will never do that again.

Starting from the ground (water) up, the floating homes have log floats, decks and siding constructed from standard hardware stores like home depoe. Most have pressure treated decking and siding that would be unheard of in a boat yard or yacht construction. This pressure treated Chromated Copper Arsenate (CCA) wood contains a chemical mixture consisting of three pesticidal compounds (arsenic, chromium, and copper). This prevents dry rot and mold fungi, bacteria ,algae, moss, lichens termites and the myriad of other insects and amphibian eggs that grow like crazy in a water surrounded ecology.

When you install these chemically protected boards on a land home, these chemicals do work way to the ground from leaching and gravity. For a floating home, these toxins go strait into the water, and continue to leach out due to equilibrium thermodynamics. There is always a higher concentration in the wood because the river continually dilutes the toxic effluent. The floating homes are extremely susceptible to these biological attacks because they are living inside a water ecosystem, so the insecticide and fungicides can get re-applied in copious quantities, multiple times during the year.

Our Foster daughter's kids and I found a lost family of ducklings wandering by our home. We collected them and decided they could live in our down stairs bathtub. I suggested that we make cedar chips out of some cedar boards left over from a deck. We shoved them through the planer and the chips smelled like cedar. We made the nest, but after a week, each duckling died of specific paralysis from the arsenic that dissolved from the treated cedar chips into thier bathtub swimming water. I recognized the arsenic poisoning as a neuroscientist. I studied the Alvord Chub, a small fish that lives in borax thermal springs of the Alvord desert in Eastern Oregon. These springs have extremely high concentrations of arsenic but the little fish, and the beautiful avocets that eat them, have adapted. But our ducklings had not adapted to arsenic, nor have we, and this taught us a very hard lesson. I could not tell that the cedar was treated with Arsenic.

The fiberglass hull of a boat on the other hand, is not nearly as susceptible to biological infection or parasites.

For safety a boat should get hauled out and pressure washed every two years at best. Boat yards have strict pressure washing recirculation requirements due to many older anti algae paints that contained copper. These bottom paints have been wonderfully superseded with once application epoxy barrier coats and teflon such as Interlux 2000E that are aquatic-ecologically friendly, once cured. Many home products that state eco-friendly were not considered for an aquatic, water related environment, especially in thier application.

There are certainly wood hulled boats, and Beth and I have two of them. But when dry rot sets into these boats, they must be scheduled for a haulout and rebuilt instead of treatment. A wood boat is a only a temporary state between dirt and dirt, and these boats are not as feasible for living aboard. Our 17' 1946 Higgins, mahogany ski boat has a wood hull treated with penetrating epoxy, then layered with 3/32" carbon fiber embedded in epoxy. This wood treatment would be extremely cost prohibitive for a floating home. Also, this work was done in my barn, where I could control the chemistry, not over the water.

The siding on many of the floating homes poses additional toxic factors to the water that, once agian, boats do not have. The dyes that color several types of siding, and house paints make projects such as touching up the window trim difficult due to potential water contamination. When you spill these finishing products on your lawn they affect the grass, but when you are floating in a river, with a current, a small spill or chemical clean up will not only contaminate your underwater basement, but downstream biology as well.

The roofs of any home in the greater Portland area, within a temperate rain forest, are susceptible to moss and other growth. Roof maintenance is always difficult due to height. Many of the roofs use zinc and other methods to inhibit moss or other growth preventatively on the large exposed surface area of the roof. A live-aboard boat, especially a sailboat designed with efficient fluid dynamics on all surfaces, has accessible decks, made of resilient surfaces, serving also as roofs. These have a much smaller surface area and impact from water runoff than a floating home.

Most of the painting and re-finishing done on boats require extremely toxic paints, but once applied are impervious to weather and are more durable than most car finishes, or your kitchen countertop. Most importantly, a boat as a dwelling can be taken to a boat yard, removed from the water, and repaired and refinished, off the water. Two boats from our marina are currently 'on the hard' for the responsible scheduled haulout. This cannot be done with a floating home, and I think this makes live-aboard residences more appealing, as they carry a smaller ecological footprint than a floating home. These requirements are also set by the American Boat and Yacht Council and can be written into a live-aboard policy. All boats moored, regardless of live-aboard status, need haulout facilities. This is part of thier water dependency, so these provisions are currently in place, to some extent.

My point is **not** that a floating home cannot be constructed with an eco-friendly roof, siding, and decking, compliant to standards that allow for minimizing the water environmental impact. My point **is** that a boat, by it's design as a true water dependent structure, makes for an excellent residence for living simply on the Multnomah Channel, provided the resident chooses to live with the spacial sacrifices and costs this life entails. I suggest that live-aboards on the Multnomah Channel be considered as a viable residence in the SIMC year plan, and meet the density, parking and drainage requirements that the floating homes demand. Live-aboards are good rural neighbors due to the low population from the hardship of living aboard, and excellent ecological neighbors because of their immersion in the water ecology.

Again, Thank You for your work, and I will send more information as I collect it.

Peace,
Mark Doyle

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On Tue, Feb 4, 2014 at 1:11 PM, Kevin COOK <kevin.c.cook@multco.us> wrote:
Mark,

Thank you for sharing your wisdom. We want to be able to address live-aboards head on this time. It's challenging because state rules direct density to urban areas, but we want to be able to be thoughtful about the big picture and the reality of what is the situation currently.

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On Fri, Jan 24, 2014 at 7:35 PM, Mark Doyle <mdoyle@georgefox.edu> wrote:

Kevin,

Cherie's letter presents a very clear and objective group of arguments that I agree with completely. I understand that the Rural Reserve Designation process is completed, but her arguments still stand. Special note should be considered to the continuous small watercraft traffic along the South Multnomah Channel. I would surmise that the number of folks in boats that go under the Sauvie Island Bridge may be very close to the annual number of folks crossing the bridge perhaps there is a survey quantifying this.

Cherie has an extremely important point about automatic bilge pumps in every boat that enters or has moorings on the Channel. Boats that stay in slips most of the year can collect liters of water from condensation similar to a bathroom mirror after a shower on the cold thermal sinks within the boat, such as uninsulated hull below the water line, or engine. When these boats are without attention, or active ventilation, such as sealing them up for the winter, a bilge can collect a liter of condensate within days. An oil leak from a poor engine seal, leaking into the bilge, will be rinsed automatically into the water without supervision.

This is a very, very strong argument **for** live-aboard slips, as someone living in the boat will keep the temperature in the boat high enough to prevent condensation, and also actively clean the bilge to prevent mildew as you would do in your bathroom. At Big Island Marina, we watch each others boats for a bilge pump turning on, especially when someone is not present. Boats of this size require a lot of time and attention and this is one reason so many folks at our marina live on their boats. It takes years to prepare for an Ocean Passage, and historically Parker's was the place in Portland to do it.

Forgive me for telling another personal story, but experience has the best examples. The hard freeze this year froze Cheshire's engine heat exchanger, which is similar to a radiator in a car, except that the engine's antifreeze coolant is cooled with river water instead of air. The river water froze, but the system has an expansion fitting that is designed to fail in case of a freeze. It worked perfectly. However, this started a small drip of river water into the bilge that kicked in the bilge pump. Again, that is what it is supposed to do. I caught the small leak because I visit the boat once a week, and our bilge is clean enough to drink from. But I was told by three of the tenants, one who called me while I was fixing it (smile).

This type of event is common to all boats large enough and designed for people to stay on for long periods of time, such as an ocean crossing. But when these boats are left unattended for long periods, problems that can harm the ecology or water quality occur. If there were an engine oil or fuel leak in your kitchen, you would attend to it, post haste, especially when you have, as we on the docks call it, a one butt kitchen (smile). My point is that a live-aboard boat can be, under the proper circumstances, much, much better than the same boat in a seasonal slip. There are tightly enforced regulations from the ABYC, The Coast Guard and the State Marine Board.

The live-aboard community has a place on the Multnomah Channel and I strongly feel it is an asset and should be incorporated into the SIMC plan. I cannot speak for transient live-aboards, because I don't know them, but the live-aboard community that I know choose to be very water dependent, and as a trained bi

Kevin COOK <kevin.c.cook@multco.us>

Wed, Feb 5, 2014 at 4:53 PM

To: Greg Winterowd <greg@winterbrookplanning.com>, Maia HARDY <maia.hardy@multco.us>, Adam BARBER <adam.t.barber@multco.us>

Mark Doyle has shared a fair amount of info with us. I will be including these comments in the outgoing packet tomorrow.

Kevin Cook

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[Quoted text hidden]

EXHIBIT 9



Kevin COOK <kevin.c.cook@multco.us>

Multnomah Channel

1 message

Jan Hamer <janrhamer@hotmail.com>

Thu, Feb 6, 2014 at 12:40 PM

To: "mdoyle@georgefox.edu" <mdoyle@georgefox.edu>

Cc: Kevin COOK <kevin.c.cook@multco.us>

Hello Mark, Thank you for the info. You have done an excellent job of describing the stay on your boat life style.

I felt your tough comparison to house boat construction is very old technology and doesn't take into account new and significantly improved designs, materials for remodeling and new homes. I too, have much experience on the Willamette, Columbia and The Channel, celebrating 40 years on the water yesterday. I own boats, designed and built two moorages and rebuilt, over nine years the largest Marina/morage west of the Mississippi River using the latest technology of steel and synthetic decking and steel piling. As homes age, they are rebuilt with vinyl siding, metal roofs, synthetic decking, untreated logs or concrete floats, steel stringers or wood stringers, with a new environmentally friendly wood treatment. Same for new replacement homes where the old unit is torn down and a new one built. Standard marina, rules prevent all moorage tenants from resurfacing anything on the water without preventive measures. My 40 years on the rivers of Oregon have taught me that these residents, are the best environmental water stewards like the live a boarders, because the live it, work on it and enjoy it every day.

Back to boating, for our mission we were charged with, at the last meeting.. I/we were charged with preparing a draft list of conditions for people staying on their boat for an extended period of time, tied up at a marina. I have started a list, both for boats and the facility to comply with and will send to you and and others for modification, hopefully tonight. Call if you have a moment. Jan [503-543-6223](tel:503-543-6223) or cell at [503-789-5873](tel:503-789-5873).