

**STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND AND WATER
SOUTHCENTRAL REGION LAND OFFICE**

**PRELIMINARY BEST INTEREST FINDING
AQUATIC FARMSITE LEASE APPLICATION**

**APPLICANTS: John Kiser & Ken Horn
ADL #107858
DBA: TATOOSH OYSTERS, LLC**

LOCATION: Tatoosh Islands, West of Betton Island

The Department of Natural Resources is accepting public comment on the following preliminary decision document for the renewal of an existing aquatic farm site. **Written comments must be received on or before 5:00 p.m., Tuesday, December 8, 2009.**

PROPOSED ACTION: The applicant is requesting a 10-year aquatic farm site lease on state-owned tide and submerged land in southeast Alaska within the Tatoosh Islands approximately 14 miles west of Ketchikan. The total acreage the applicant is proposing is 2.98 acres for the culture of pacific oysters. The farm site will include a grow-out area, a hardening and defouling area and a covered worker's float which will be used as a care-taker facility during the summer months only.

The farm site location is only accessible by boat or floatplane. A location map is attached to this decision.

AUTHORITY: AS 38.05.035; AS 38.05.070; AS 38.05.075; AS 38.05.083; AS 38.05.127;
AS 38.05.128; 11 AAC 63.020

This decision addresses and is based on those issues under the authority of the Department of Natural Resources (DNR) under Title 38. While other issues may be addressed that are not within the scope of DNR's responsibilities, this decision's purpose is to determine whether or not to issue a DNR lease and does not make any determinations whatsoever on the issuance of other agency authorizations that are necessary for aquatic farming activities.

ADMINISTRATIVE RECORD: The administrative record for this application is ADL 107858.

GEOGRAPHIC LOCATION: The farm site is located on state-owned tide and submerged within an unnamed bay within the Tatoosh Islands just west of Betton Island approximately 14 miles west of Ketchikan.

USGS MAP COVERAGE: Ketchikan B-6

NAUTICAL CHART: 17422

LEGAL DESCRIPTION:

Township 73 South, Range 89 East, Copper River Meridian

And more specifically described as:

Section 23; SE ¼ in an unnamed bay on the east side of the Tatoosh Islands, encompassing an area totaling measuring 400 ft x 900 ft x 175 ft equaling 2.70 acres for suspended culture grow-out; an area measuring 150 ft x 35 ft, totaling 0.12 acres for hardening and defouling farmed product; and an area measuring 85 ft x 85 ft totaling 0.16 acres for a floating work platform with a 25' x 20' seasonal cabin to be used as a care-taker facility during the summer months only. The work platform will be

The total area encompassed by this aquatic farm is approximately 2.98 acres, more or less.

Lands are located in the Ketchikan Recording District.

LATITUDE/LONGITUDE: The four corners of the proposed aquatic farm site are to be sited at:

Grow-out Area (2.70 acres)

NE Corner:	Latitude N 55° 31.347'	Longitude W 131° 50.118'
SE Corner:	Latitude N 55° 31.233'	Longitude W 131° 50.283'
SW Corner:	Latitude N 55° 31.277'	Longitude W 131° 50.284'
NW Corner:	Latitude N 55° 31.329'	Longitude W 131° 50.210'

Hardening and Defouling Area (0.12 acres)

NE Corner:	Latitude N 55° 31.359'	Longitude W 131° 50.392'
SE Corner:	Latitude N 55° 31.336'	Longitude W 131° 50.406'
SW Corner:	Latitude N 55° 31.338'	Longitude W 131° 50.416'
NW Corner:	Latitude N 55° 31.361'	Longitude W 131° 50.402'

NE Corner:	Latitude N 55° 31.168'	Longitude W 131° 50.337'
SE Corner:	Latitude N 55° 31.156'	Longitude W 131° 50.351'
SW Corner:	Latitude N 55° 31.164'	Longitude W 131° 50.371'
NW Corner:	Latitude N 55° 31.176'	Longitude W 131° 50.358'

POLITICAL INFORMATION:

BOROUGH/MUNICIPALITY: This proposed aquatic farm site is within the organized borough of Ketchikan.

COASTAL DISTRICT: The application lies with the approved City of Ketchikan Coastal District.

REGIONAL CORPORATION: Sealaska Corporation

FISH AND GAME ADVISORY COMMITTEES: Ketchikan Fish and Game Advisory Committee.

TITLE:

ACQUISITION AUTHORITY: Submerged Lands Act of 1953. (PL 31, 83rd Congress, First Session; 67 Statute 29); Equal Footing Doctrine; Section 1 of the Alaska Statehood Act.

TITLE REPORT: A title report was requested on November 2, 2009

PLANNING AND CLASSIFICATION:

LAND MANAGEMENT PLAN: Central/Southern Southeast Area Plan, Region 5, Ketchikan - North.

LAND CLASSIFICATION: The Central/Southern Southeast Area Plan designates state owned tidelands in the Tatoosh Islands area as (Ha) Habitat.

SURFACE MINERAL ORDERS: The proposed site is open to mineral entry.

ALASKA COASTAL MANAGEMENT PLAN: The proposed aquatic farm is currently undergoing Alaska Coastal Management consistency review. If the project is found to be inconsistent the project can not obtain a lease.

ACCESS: Access to the proposed sites is by boat or floatplane. A fifty-foot-wide easement will be reserved to protect public access in accordance with 11 AAC 63.050(b)(6) and 11 AAC 53. If additional specific easements are required, they will be addressed under the final recommendation section of this document.

SURVEY AND APPRAISAL:

SURVEY: A survey is not required by law before issuing a 10-year negotiated lease.

However, the department has the right to require one in the future, at the applicant's expense, if boundary conflicts or disputes over acreage arise.

APPRAISAL: A site-specific appraisal is not necessary because the Division of Mining, Land and Water has approved an administrative lease fee schedule for aquatic farm sites. The most current lease fee schedule will be used to establish the fair market rental each lessee must pay. The applicant has the option to have a site-specific appraisal done, at the applicant's expense, before the lease is issued, if he or she does not want to use the fee schedule. If an applicant opts for a site-specific appraisal, the approved appraisal will establish the rental for the affected lease, and the applicant cannot later decide to switch back to the fee-schedule rate.

PUBLIC/AGENCY NOTICE AND COMMENTS: Public notice of the proposal has been sent to various newspapers, post offices, agencies, boroughs/cities, native corporations, , Fish and Game Advisory committees, etc. Public and agency comments are welcome during the comment period and will be considered in the final best interest finding. Only those who provide written comments during the comment period or who testify at a public hearing will be sent a copy of the final best interest finding and will be eligible to appeal. The final best interest finding will include an explanation of the appeal process. The public comment period begins on November 9, 2009 and will end on December 8, 2009.

The Alaska Department of Fish and Game has provided the following information:

The Alaska Department of Fish and Game (ADF&G) has reviewed the subject proposal and has done a partial review and determination of this proposal under its statutory and regulatory requirements.

Project Description

The applicant is requesting a proposed aquatic farm site located near Tatoosh Islands under ADL 107858, approximately 13.6 miles northwest of Ketchikan, Alaska, on state-owned tide and submerged lands. The northeast corner of the site is located at 55° 31.347' N, 131° 50.118' W and runs 900 feet by 267 feet by 400 feet by 334 feet comprising 2.6 acres. A 150 foot by 35 foot hardening area located west of site 1 and an 85 foot by 85 foot worker's area south of site 1 is requested for a total of 2.9 acres.

Evaluation

I. Physical and Biological Characteristics: The proposed aquatic farm site is located in a location area that has physical and biological characteristics that are suitable for culture of oysters.

Protection from Oceanographic and Atmospheric Extremes: The proposed aquatic farm operation project is located in an area that is somewhat protected from extreme

oceanographic and atmospheric extremes and the farm gear proposed for use at the site is also thought to be able to withstand these extremes.

Sufficient environmental conditions: The proposed aquatic farm operation project is in an area that appears to be protected from extreme oceanographic and atmospheric extremes. The farm gear proposed for use at the site have a similar configuration and anchoring systems as existing adjacent aquatic farms in the area and appears to be able to withstand these extremes.

Sufficient Water Depth: The water depth at the aquatic farm site appears to be sufficient to prevent gear from grounding and impacting the benthos under floating structures.

Eelgrass and Kelp Beds Maintained: Based on the application information provided by the applicant there does not appear to be any eelgrass in the proposed project area. The exact locations and extent of kelp beds is not well documented in the area. If health and the abundance of kelp beds in the area are not properly maintained within the proposed aquatic farm site, project modifications to the Aquatic Farm Operations Permit will be made to correct the condition.

Anadromous Fish Streams: Anadromous streams catalogued for various salmon species are located near the proposed project¹. The proposed aquatic farm operation is not located within 300 feet of the mouth of an anadromous fish stream. The closest anadromous stream is 0.8 miles from the site being proposed. Table 1 summarizes the distance between the aquatic farm site coordinate and the mouth of the anadromous stream, the classification number for the stream, and lists all the fish species that reside or spawns there.

**Table 1: Distance of Anadromous Streams From Proposed Aquatic Farm Sites
(Source: ADF&G Division of Sport Fish, Fish Distribution Database)**

Site No.	Location	Name of Stream	Number	Dist. Between site and mouth of stream (feet)	Fish Species
107858	Tatoosh Islands		101-90-11010	4,156 ft	pink salmon

II. Existing Uses not Significantly Altered: The proposed aquatic farm site is not expected to cause any significant alterations an established use defined as commercial fishery, sport fishery, personal use fishery, and subsistence fishery. Table 2 summarizes the traditional and existing uses for commercial, sport, and subsistence fisheries and anchorages in the proposed aquatic farm site area.

¹¹Johnson, J. and K. Klein. 2009. Catalog of waters important for spawning, rearing, or migration of anadromous fishes - Southeast Region, Effective June 1, 2009. Alaska Department of Fish and Game, Special Publication No. 09-04, Anchorage.

Table 2: Existing Uses for Commercial, Sport, and Subsistence Fisheries and Anchorages at the Sites												
ADL-site	General Area	Species	ADF&G Stat Area	Geoduck Commercial Fishery	Sea Cucumber Commercial Fishery	Red Urchin Commercial Fishery	Salmon Gillnetting Commercial Fishery	Salmon Trolling/Salmon Purse Seining	Herring/Dungeness crab	Recreational Sport Fishery/Personal Use	Anchorage	Subsistence
107858	Tatoosh Islands	Pacific oysters	101-90	No	Yes	No	No	Yes	No	Probably	No	No

Commercial Fisheries: The proposed aquatic farm is located in ADF&G Commercial Fisheries Division Statistical Area subdistrict 101-90. The proposed aquatic farm site is not expected to cause any significant alterations to the existing commercial fishery uses in the area.

Geoducks: The site is 6.5 miles away, from the Vallenar Bay geoduck commercial fishery harvest area bed code 101-29-004 in subdistrict 101-90. The proposed aquatic farm site is not expected to cause any significant alterations to the existing geoduck commercial dive fishery in the area.

Sea cucumber: These sites are in the Higgins Point to Nose Point commercial sea cucumber dive fishery harvest area 010190. On a three year rotation, the last fishery occurred there in 2006/07 and is currently, in 2009, open for the commercial fishery. The number of permits (individuals) for this statistical area harvesting sea cucumbers accounted for 22% (29 out of 134) of all the 2006/2007 season permits recorded that harvested in the Ketchikan Management Area. The proposed aquatic farm site is not expected to cause any significant alterations to the existing sea cucumber dive fishery in the area.

Red Sea Urchins: No commercial red sea urchin dive fishery takes place at the site.

Salmon: No salmon gillnetting fishery, salmon trolling, or gillnet salmon fishery occurs at the site. Salmon trolling and seining fisheries do occur in this statistical subdistrict area. In 2008, there were 91 recorded salmon landings in this statistical subdistrict area. The proposed aquatic farm site is not expected to cause any significant alterations to the existing salmon commercial fishery in the area.

Herring: No commercial herring fishery occurs in this area.

Dungeness crab: No commercial crab fishery occurs in this area.

Sport Recreational Fishery: The area is not a significant site for Sport Anglers. Traditional troll and bottom fishing area for sport fishers is not known to occur in this area. Due to their design, oyster farms have not seemed to have significant negative impact on anglers. The proposed aquatic farm site is not expected to cause any significant alterations to the existing sport recreational fishery uses in the area.

Subsistence Fishery Use: This proposed aquatic farm site is not thought to significantly alter existing subsistence fishery use in the area.

Anchorage: This area is not known to have any critical vessel anchorages.

III. Compatible with Fish and Wildlife Resources: The proposed aquatic farm site is compatible with fish and wild life resources in the area.

Predator and Pest Control Methods: Predator exclusion devices to be used at the proposed site are expected to be utilized in a manner that minimizes impacts on non-targeted fish and wild life resources in the area.

Sensitive Wildlife: The proposed aquatic farm site is not expected to adversely impact seabird colonies, sea lion haulouts and rookeries, seal haulouts and pupping areas, and walrus haulouts.

Sea Bird Colonies – There are no sea bird colonies identified within 1 mile of the proposed sites.²

Sea Mammal Habitat - The proposed aquatic farm is located within 1 mile of a known harbor seal haulout area based on the linear distance from the northeastern latitude and longitude coordinate of the proposed aquatic farm site and the center point of the nearest known marine mammal haulout³ (See the attached map, Figure 1, for the location of the farm site and the haulout areas). During survey of 1998, a mean count of between 11 and 50 harbor seals were present at this haulout. During the survey of 2007, no counts were determined for harbor seals at this haulout. Relative to the numbers of the population stock for this management area, the haulout is secondary based on the harbor seal counts. The primary haulout for harbor seals in this area based on a count of between 101 and 500 seals is 7.6 miles away. This proposed aquatic farm project is not expected to adversely impact sea mammal habitats. Table 1

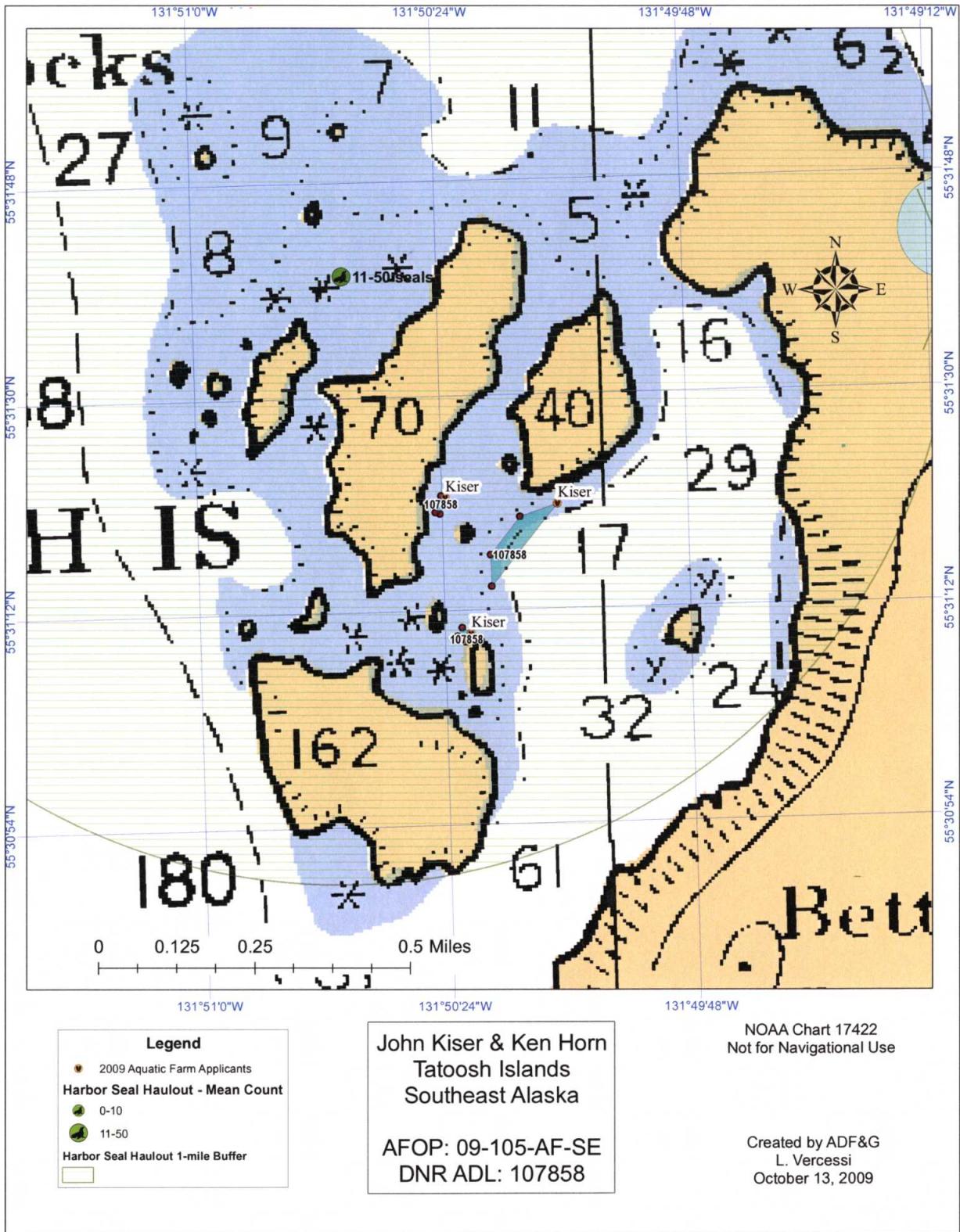
² U.S. Fish and Wildlife Service, (current year). Beringian Seabird Colony Catalog -- computer database. U.S. Fish and Wildlife Service, Migratory Bird Management, Anchorage, Alaska 99503.

³ Analysis completed by NOAA Fisheries Service, Alaska Region, Protected Resources Division. Specifically, the data used to complete this analysis were provided by researchers from NOAA Fisheries Service, Alaska Fisheries Science Center, and National Marine Mammal Laboratory.

summarizes the actual estimated distances from harbor seal haulout areas.

Figure 1: Harbor seal haulouts and one mile buffer in area of Tatoosh Islands.

*** Map on following page**



ADL	General Area	Applicant Contact Name	Species	Sea Lion Haulout	Harbor Seal Haulout	Count	Distances from Haulout Area (miles)
107858	Tatoosh Islands	Kiser/Horn	Pacific oyster	No	Yes	11-50	0.5 mile
107858	Tatoosh Islands	Kiser/Horn	Pacific oyster	No	Yes	101-500	7.6 miles

Endangered species: The proposed aquatic farm project is not expected to adversely impact endangered and threatened species recovery and habitat efforts.

IV. Operation and Development Plan:

Increase Productivity: The operation and development plan for this project sufficiently describes how the operation will improve the productivity of the species intended for culture above what would occur in natural conditions using approved methods such as predator exclusion, reduction of competing species, destiny manipulation, import of naturally produced seed, import of hatchery produced seed, programming harvest to optimize growth and shellfish condition, and habitat improvements.

Maintenance: The operation and development plan for this project indicates that support facilities and culture gear and anchoring system will be installed with sufficient anchors and maintained.

Rotation Schedule: The projected rotation schedule is consistent with the life history of the species intended for culture.

V. Species to be Cultured and Site Suitability

The department has not conducted a site suitability study for this site. Based on information provided by the applicant, the proposed site is capable of supporting the activities proposed. The proposed parcels in this aquatic farm operation project are located in an area that is thought to be suitable for suspended oyster culture.

The preliminary best interest finding is subject to public comments received during the comment period. The final best interest finding will consider and address any comments related to the subject proposal and will be available on or about December 18, 2009. If significant changes occur to this decision as a result of public comments received, additional notice will be sent to those who provided comments, either in writing or by testifying at a public hearing.

ENVIRONMENTAL RISK QUESTIONNAIRE: The applicant has indicated that this proposed activity will not generate, use, store, transport, disposal of, or otherwise come in contact with toxic

and/or hazardous materials, and/or hydrocarbons.

BONDING AND INSURANCE: Bonding, or another form of security, is required under AS 38.05.083 and 11 AAC 63.080. The bond must cover the costs of site cleanup and restoration, any associated cleanup costs after termination of the lease, including any unpaid rentals or other obligations accruing until site restoration is complete. The bond regulations require:

The minimum security amount for a lease is \$2,500. However, if three or more lessees post an association bond to cover all of their leases, the minimum security amount is 50 percent of the amount individually calculated for each lease. The association must designate an agent for notification purposes. The association has the right to be notified of the termination of a lease covered by its association bond. If neither the former lessee nor the association completes the site restoration as required by AS 38.05.090, the department will use the association bond for this purpose, up to 100 percent of the amount individually calculated for that lease. The association may remove a lease in good standing from the coverage of its association bond after a 60-day notice to the department, during which time the affected lessee must make other arrangements to comply with 11 AAC 64.080(b). A lease that is in default or that has been terminated with site restoration still pending may not be removed from the coverage of an association bond.

At this time, the Department does not require these operations to have insurance. Insurance may be required in the future depending on the operation and the policies of the department at the time changes are made to the lease or another lease is issued. Insurance, such as Workman's Compensation Insurance, may be required under other state laws.

TRADITIONAL USE FINDING: Information available at this time suggests that an aquatic farm would not disrupt traditional uses such as subsistence activities. Through agency and public input, more traditional and existing use information may surface. If such information becomes available, any potential conflicts will be addressed in the final decision.

Existing aquatic farms in southeast Alaska have caused no known disruption of traditional and/or existing uses such as commercial and sport fishing, subsistence activities, boat travel, and recreation.

CENTRAL/SOUTHEAST AREA PLAN INFORMATION SPECIFIC TO THIS PROPOSAL: This farm site lies within Region 5, Ketchikan - North. State tidelands and submerged lands are designated General Use.

UPLAND OWNER MANAGEMENT: The U.S. Forest Service (Tongass National Forest) is the upland owner of lands adjacent to the aquatic farm.

CONSIDERATIONS: The following criteria, set out in 11 AAC 63.050(b), has been considered and represents what is known at this time:

Land Management: There are no known land management policies or designations, other than those in the Alaska Coastal Management Program, the Central/Southern Southeast Area Plan, and potentially the Tongass Land and Resource Management Plan that may impact this proposal. Measures taken to mitigate impacts on the resources identified in the above-mentioned plans are listed below.

Pending/Existing Uses:

1. There are no known pending use conflicts or potential impacts to nearby communities or residential land due to the placement of this farm at the proposed location.
2. Information available suggests the aquatic farm has not disrupted traditional and existing uses of the site for use as an anchorage, commercial and sport fishing, recreation, and tourism.
3. There are no historic and cultural resources known to exist in the area.
4. There are no commercial or industrial facilities known to exist in the area.

Public Access: Public access has been and will be protected in accordance with 11 AAC 63.050(b)(6) and 11 AAC 53 and will be addressed in any resultant lease agreement.

Public Trust Doctrine: Any resultant lease agreement is subject to the principles of the Public Trust Doctrine in order to protect the public's right to use navigable waters and the land beneath them for navigation, commerce, fishing, and other purposes.

Mitigation Measures: In addition to the mitigation measures identified above under Pending/Existing Uses, paragraph 2, any resultant lease renewal may include additional stipulations necessary to mitigate conflicts identified during the public/agency comment period

Social, Economic, and Environmental Concerns: There are no known significant social, economic, and environmental effects from the existing lease.

Surface Area: The proposal does not encumber more than a third of the surface area of a bay, bight, or cove in accordance with 11 AAC 63.050(c).

ADVANTAGES AND DISADVANTAGES OF THE PROPOSAL: This aquatic farm could provide opportunities to increase income and diversify the state's economy by utilizing state tide and submerged lands for this purpose. The advantage of this lease on state owned tide and submerged lands would be possible employment opportunities as well as any secondary jobs created or increased from businesses involved in marketing, transport or sale of farmed products.

There are no obvious disadvantages of this activity on state owned tide and submerged lands. The public should be aware that access through the site, as well as access to any of the common

property resources not being cultured at the site are public uses that remain intact. Therefore, any resultant lease would stipulate the requirement that there is proper signage of the aquatic farm sites to inform the public of the owner's name, address, ADFG and DNR permit and lease numbers.

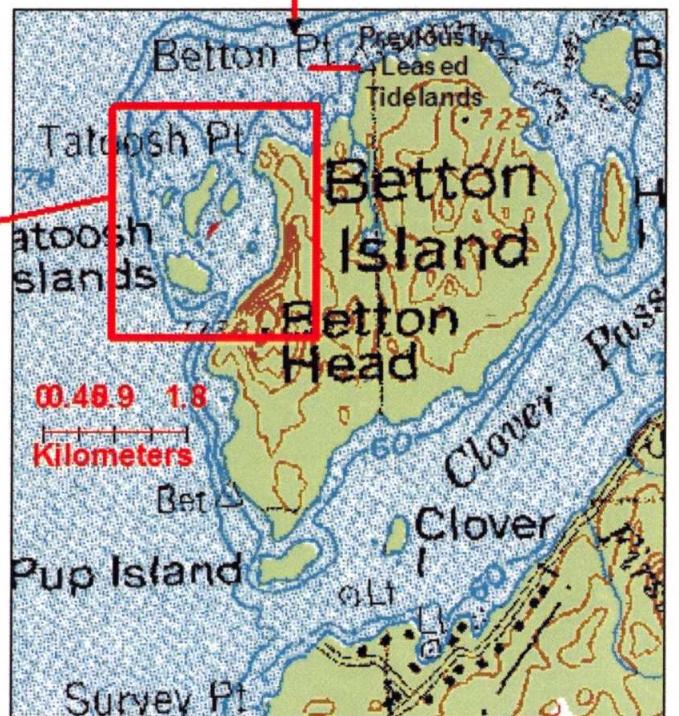
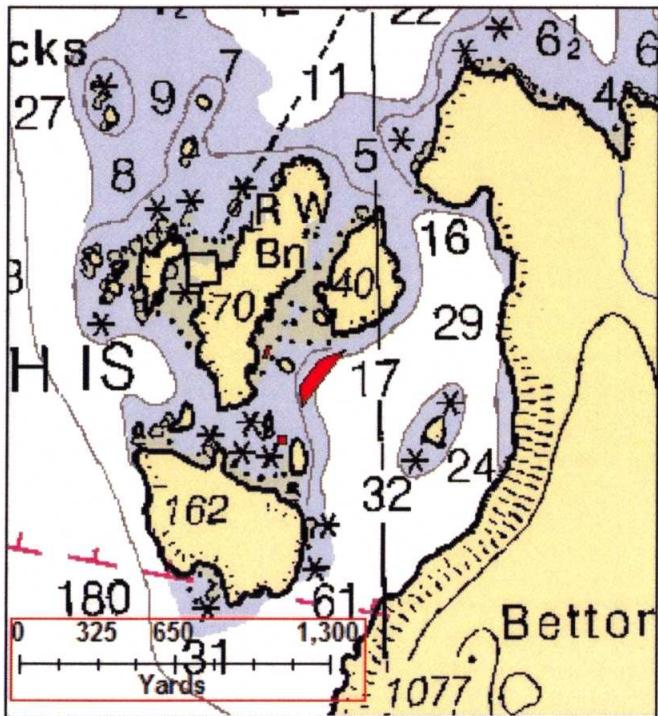
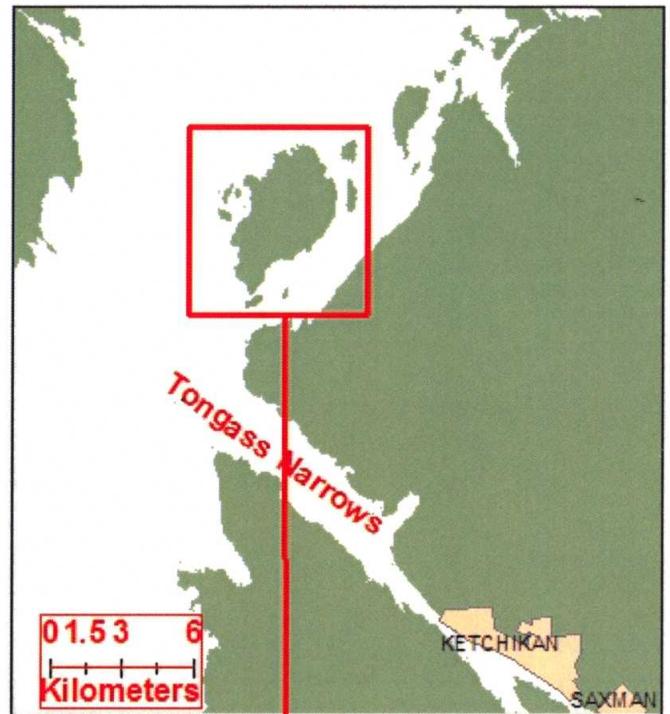
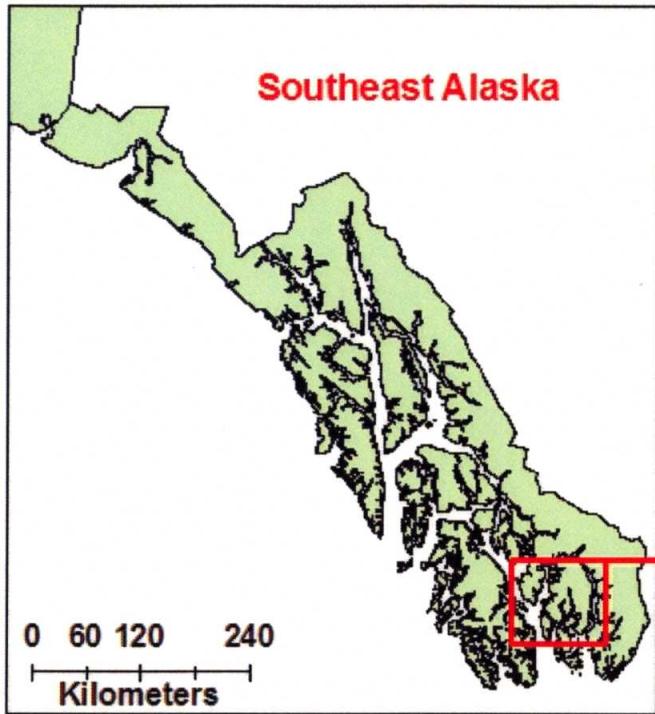
RECOMMENDATION: Considering the information known at this time and described within this decision, it appears to be in the state's best interest to renew the lease for approximately 2.98 acres more or less to the applicant for intertidal culture. Any resultant lease will include stipulations that may be identified as a result of public comments. Approval of the application is recommended with a security bond set at \$2,500 or \$1250 with an association bond. Should the Division of Governmental Coordination find the project inconsistent with the Coastal Management Program, the lease would not be issued.



John S. Thiede, Aquatic Farm Program Manager

November 6, 2009
Date

Tatoosh Oysters, LLC Vicinity Map 1- Small to Large Scale

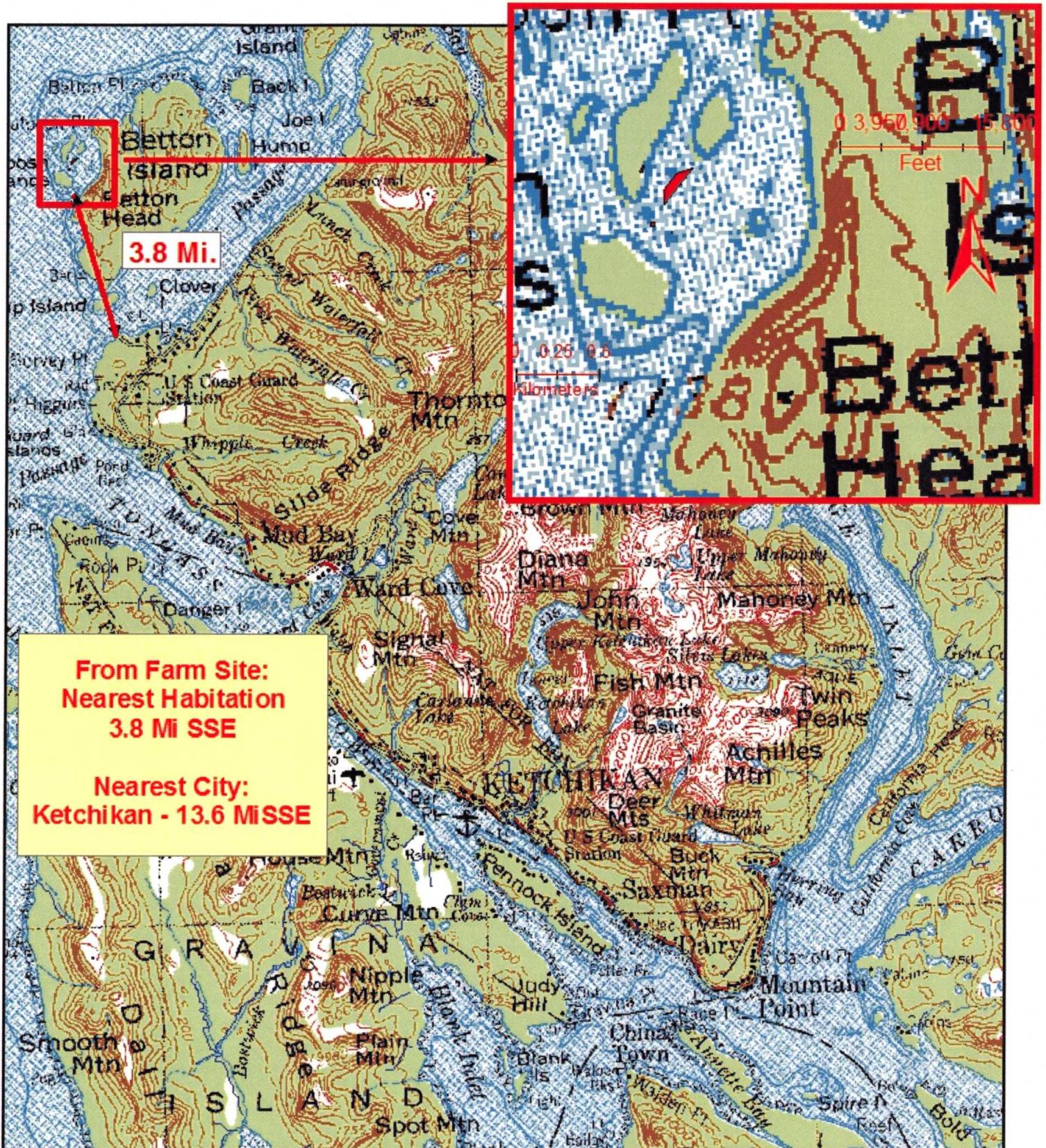


DNR: TBD
ADF&G: TBD
Legal Description of Property:
Section 23
Township 73 South
Range 89 E
Cooper River Meridian

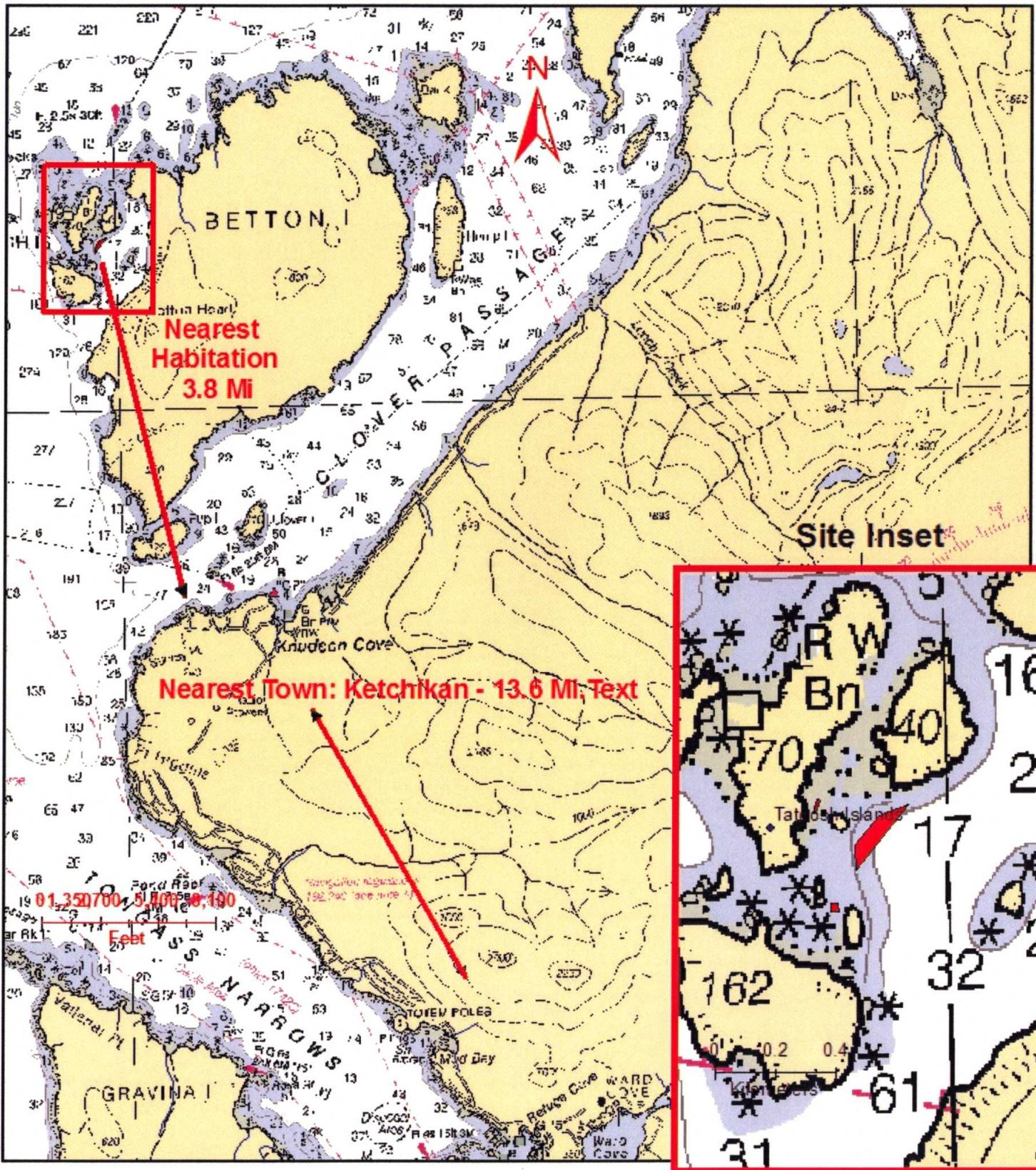


Attachment
ADL # 107858
Page 1 of 15

Tatoosh Oysters, LLC Vicinity Map 2 - USGS USGS Map C55130a - Ketchikan 1-250,000



Tatoosh Oysters, LLC Vicinity Map 2 - NOAA NOAA Chart 17422



Proposed Tatoosh Islands
Aquatic Farm site

Nearest Habitation
3.8 Mi. SSE

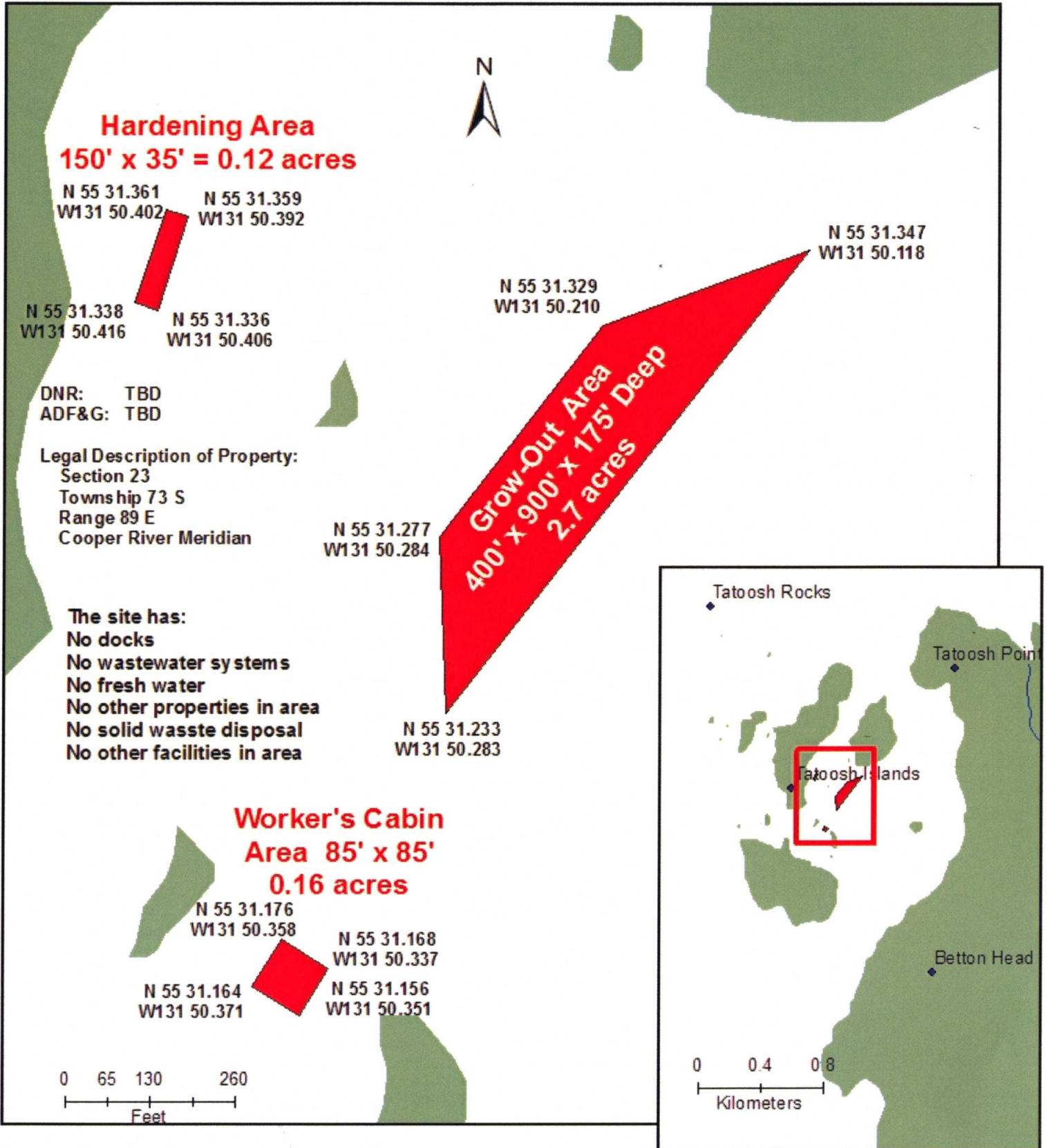
Nearest City:
Ketchikan
13.6 Mi. South

Tatoosh Island Oysters, LLC Vicinity Map 4 – Google Map

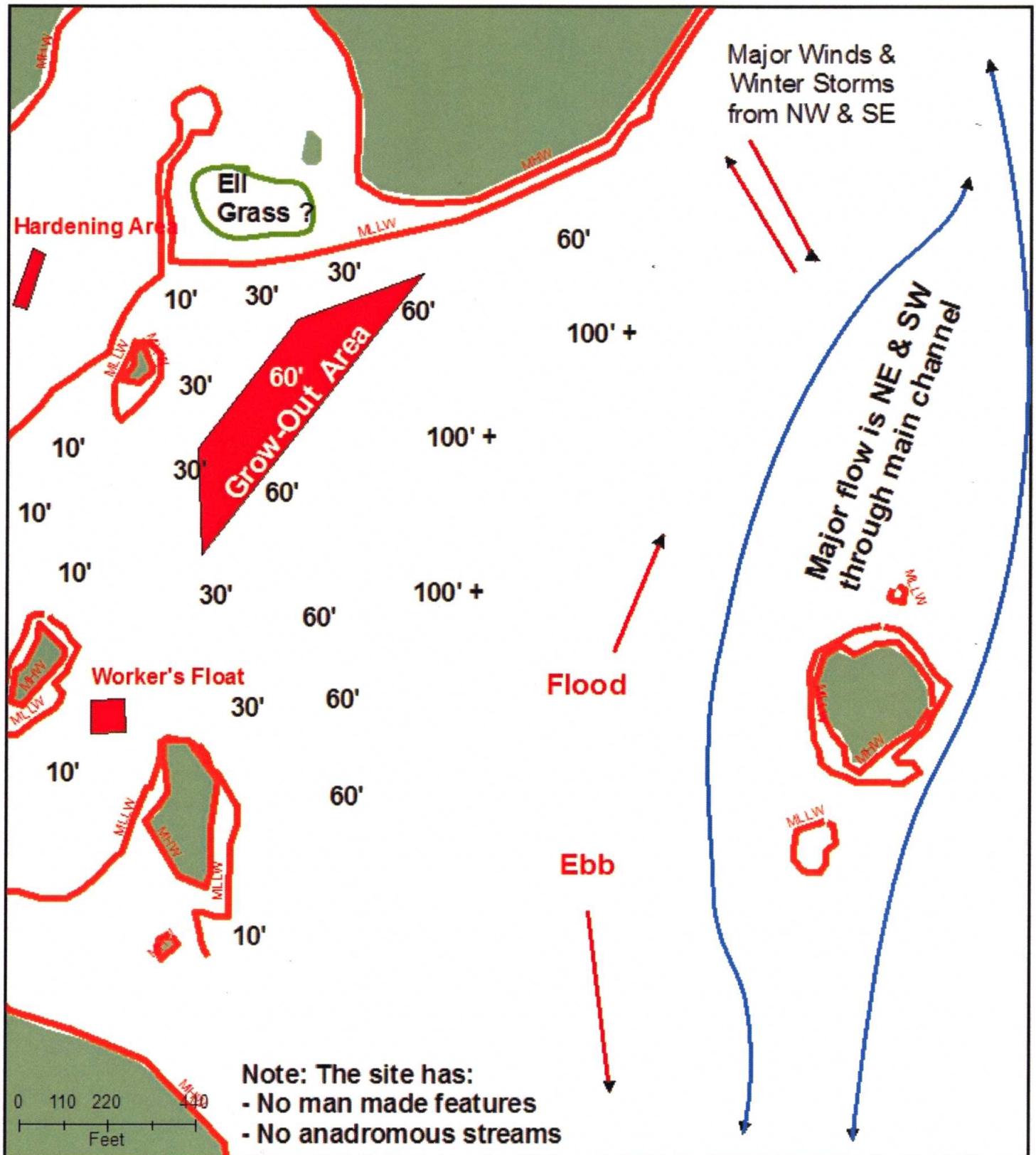


© 2007 Google™
© 2009 Aquaculture Farm Program Application - Encl 04

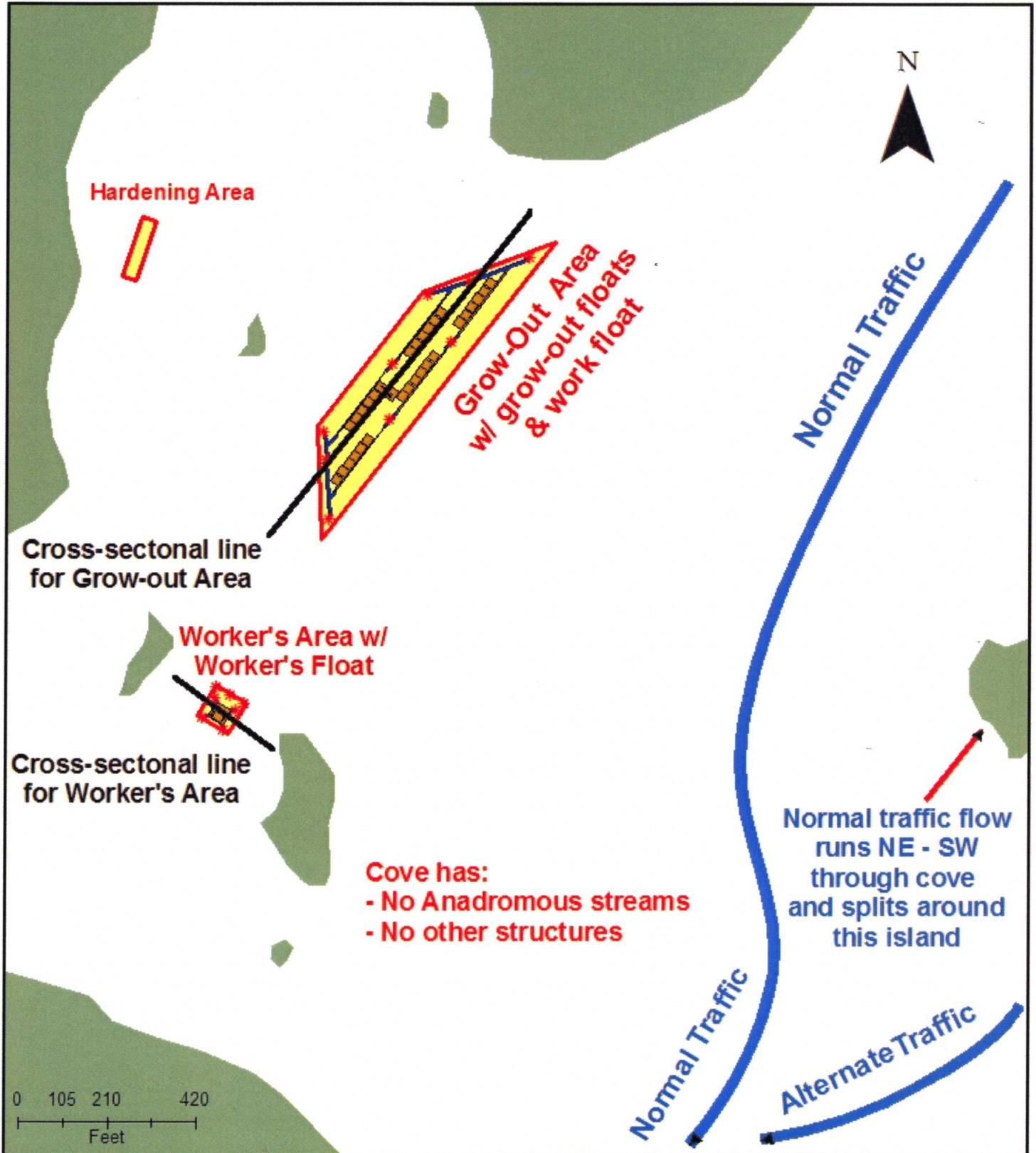
Tatoosh Oysters, LLC Site Plan 1 - Layout



Tatoosh Oysters, LLC Site Plan 2 - Environmental

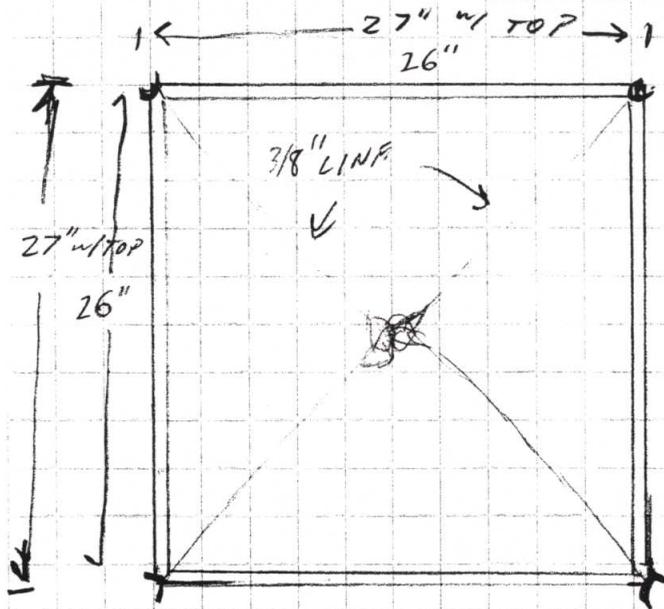


Tatoosh Oysters, LLC Site Plan 3 - Structures



CROSS-SECTIONAL - METAL STACKS

METAL STACKS

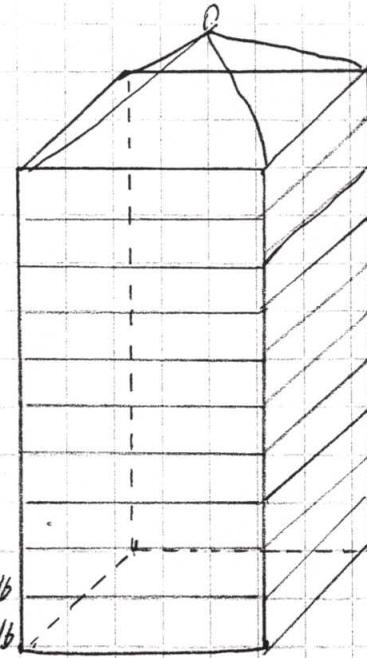


TRAYS
26" x 26" x 5"

STACK
27" x 27" x 4'3"

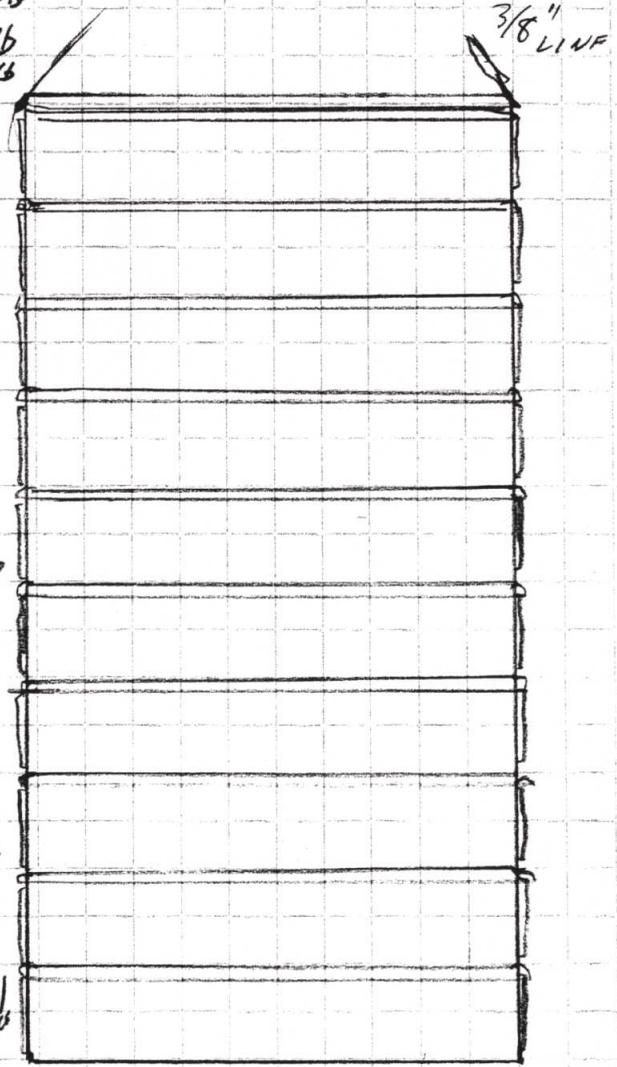
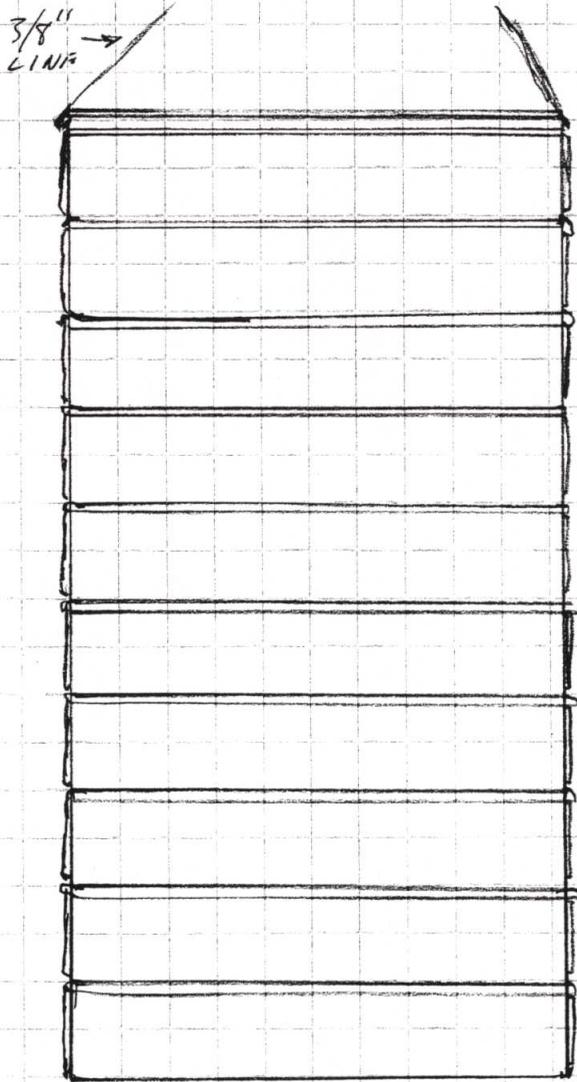
WEIGHTS
STACK, DRY = 65 lb
100% OYS = 300 lb
EMPTY POLLING = 300 lb

CALC. DRY 800 lb
CALC SUSP = 120 lb



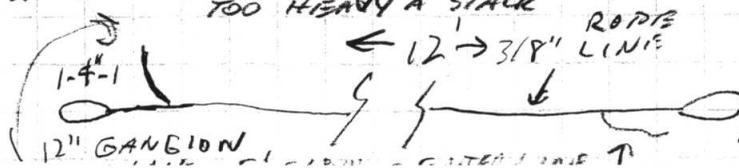
A3 BUOYS
LIFT CAPACITY
7200 lb
LIFT (INFL)
7120 lb

WINCH
2K WINCH
W/ SHORTEST
LINE
TO REACH
LOOPS
4K WOULD WORK



LONGER THAN 26" TRAY IS TOO HEAVY A STACK

26" TRAY
USES STANDARD
3' WIRE ROLL
W/ LEAST WASTE
127 OYSTERS FITS

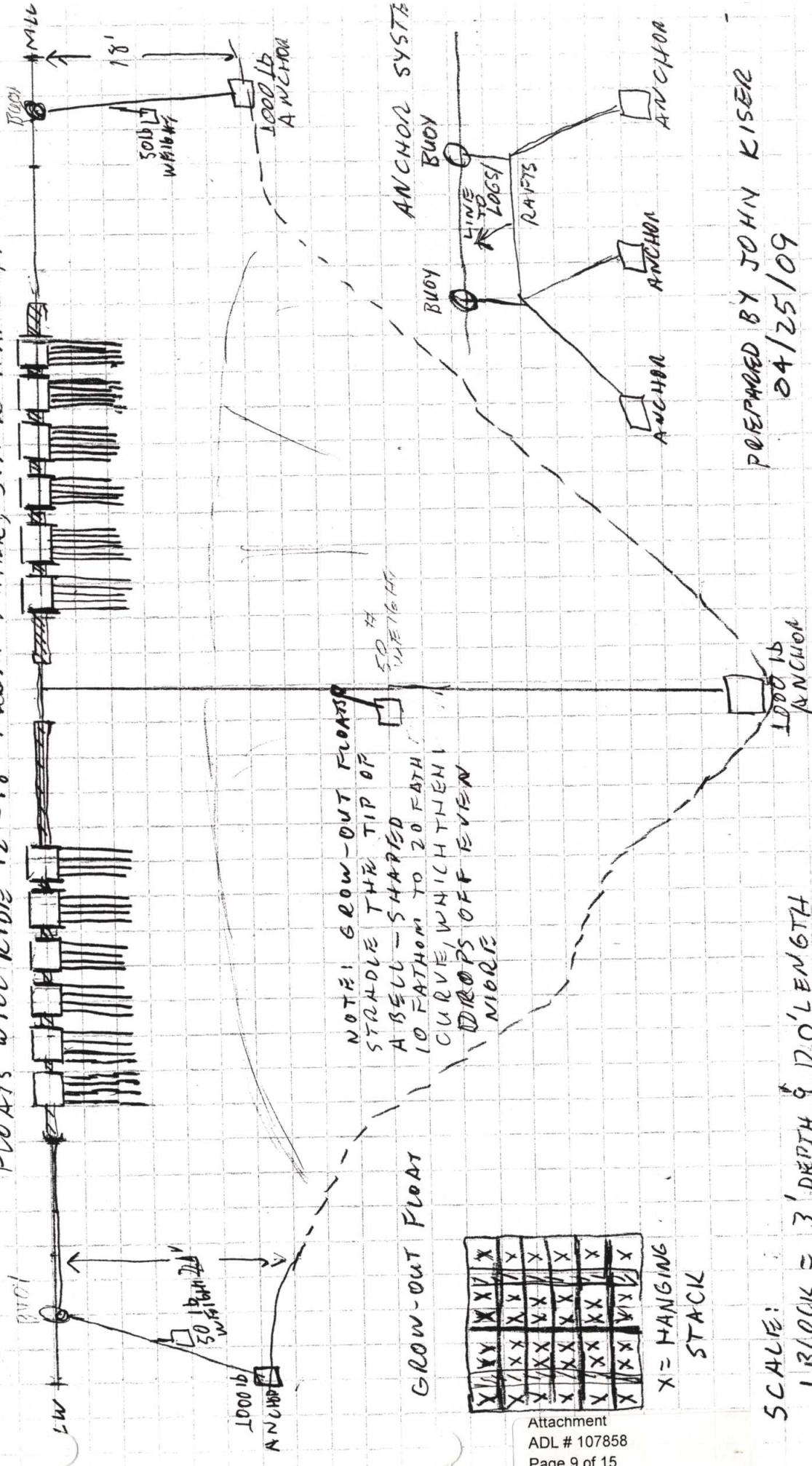


(2) 12' 3/8" LINE

TATDOOSH OYSTERS, LLC
CROSS-SECTION DIAGRAM - GROW-OUT FLOATS (A-A')

GROW-OUT FLOATS ARE 20' X 20', DECKING & FRAME
ARE WOOD, FLOTATION IS FOAM-FILLED, PVC BOXES

FLOATS WILL RIDE 12"-18" FROM WATER, STACIS HANG FROM THEM.



NOTE: GROW-OUT FLOATS
STRADDLE THE TIP OF
A BELL-SHAPED
CURVE, WHICH THEN
DROPS OFF EVEN
MORE

X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X

X = HANGING
STACK

PREPARED BY JOHN KISER
04/25/09

SCALE:
1 BLOCK = 3' DEPTH & 120' LENGTH

23 April 2009

Grow-Out Rafts - Cross-Sectional Information

For grow-out, at this time we plan to use the basic model used by the Naukati Bay Shellfish Nursery on Prince of Wales Island. A detailed description of this model can be found at:

<http://www.nbsfn.com/growout%20rafts.htm>

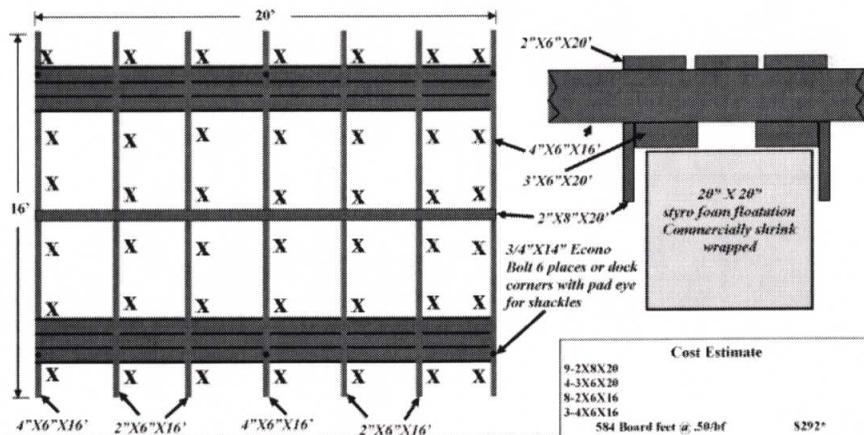
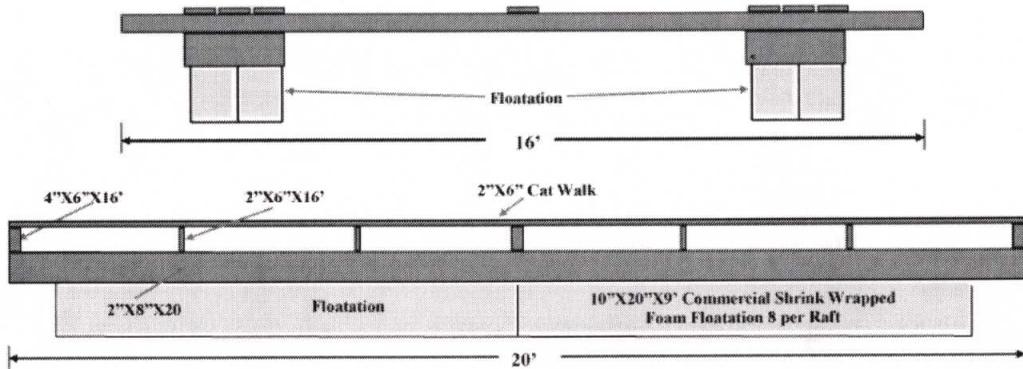


Contact Point:
John Kiser
Tatoosh Island Oysters, LLC
P.O. Box 1011
Ward Cove, AK 99928

Typical Oyster Grow Out Raft

Grow out rafts are constructed of rough sawn lumber and foam flotation. Fasteners are stainless steel and marine grade. The foam flotation is commercially shrink wrapped. Each raft measures 16' X 20' and sits approximately 20" out of the water. Rafts are then moored to each other and anchored to the bottom.

Each raft can handle a minimum of 42 hanging stacks of 8 trays, each tray can hold 120 oysters at marketable size for a total of 40,320 oysters or 3,360 dozen per raft. Each raft could hold up to 336,000 25mm (1") spat when purchased from Naukati Bay Shellfish Nursery.



Typical Oyster Grow Out Raft
 Grow out rafts are constructed of rough sawn lumber and foam flotation. Fasteners are galvanized and marine grade. The foam flotation is commercially shrink wrapped. Each raft measures 16' X 20' and sits approximately 20" out of the water. Rafts are then moored to each other and anchored to the bottom. Many variations are possible, however, spacing of the cross members to 36" makes it very easy to get the tray stacks in and out of the water and allows more flow around the tray stacks
 Each raft can handle a minimum of 42 hanging stacks of 8 trays, each tray can hold 120 oysters at marketable size for a total of 40,320 oysters or 3,360 dozen per raft. Each raft could hold up to 336,000 25mm (1") spat when purchased from Naukati Bay Shellfish Nursery.

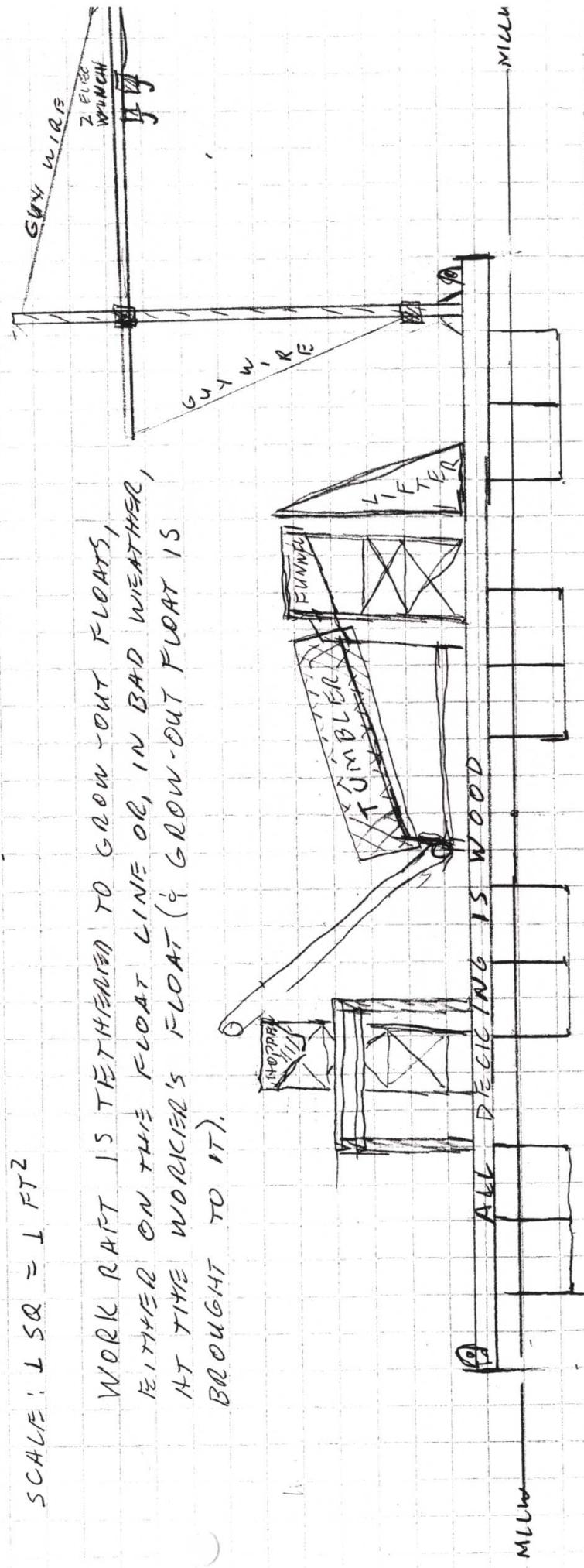
Cost Estimate	
9-2X8X20	
4-3X6X20	
8-2X6X16	
3-4X6X16	
584 Board feet @ .50/bf	\$292*
4- 20"X20"X108" foam @ \$54 each	\$216*
6- 3/4"X14" Econo bolts with nuts and washers \$9.50 each	\$57*
Nails and screws	approximately \$20*
Poly rope to attach flotation	\$20*
Total	\$605

* Does not include shipping. Cost to ship foam varies depending on the quantity shipped.

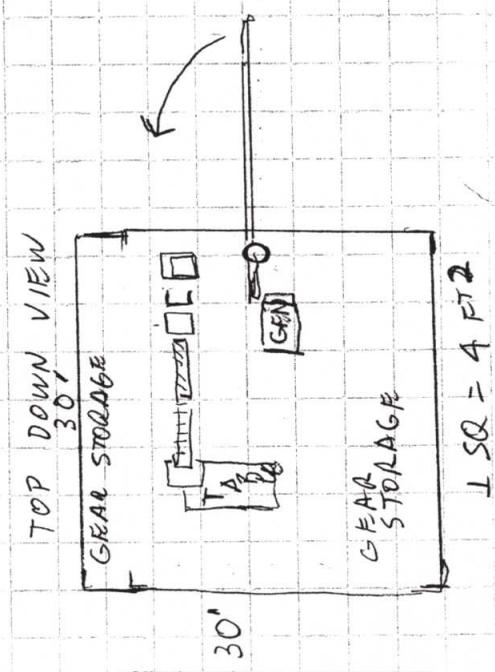
TATOOSH OYSTERS, LLC CROSS-SECTION DIAGRAM - WORK RAFT

SCALE: 1 SQ = 1 FT²

WORK RAFT IS TETHERED TO GROW-OUT FLOATS,
EITHER ON THE FLOAT LINE OR, IN BAD WEATHER,
AT THE WORKER'S FLOAT (4 GROW-OUT FLOAT IS
BROUGHT TO IT).



FLUTATION IS PROVIDED BY 16'
20" X 24" X 4' FOAM-FILLED
PVC BOXES



PREPARED BY JOHN KISER
08/25/09

23 April 2009

Automatic Cleaning System (ACS) on Work Raft - Cross-Sectional Information

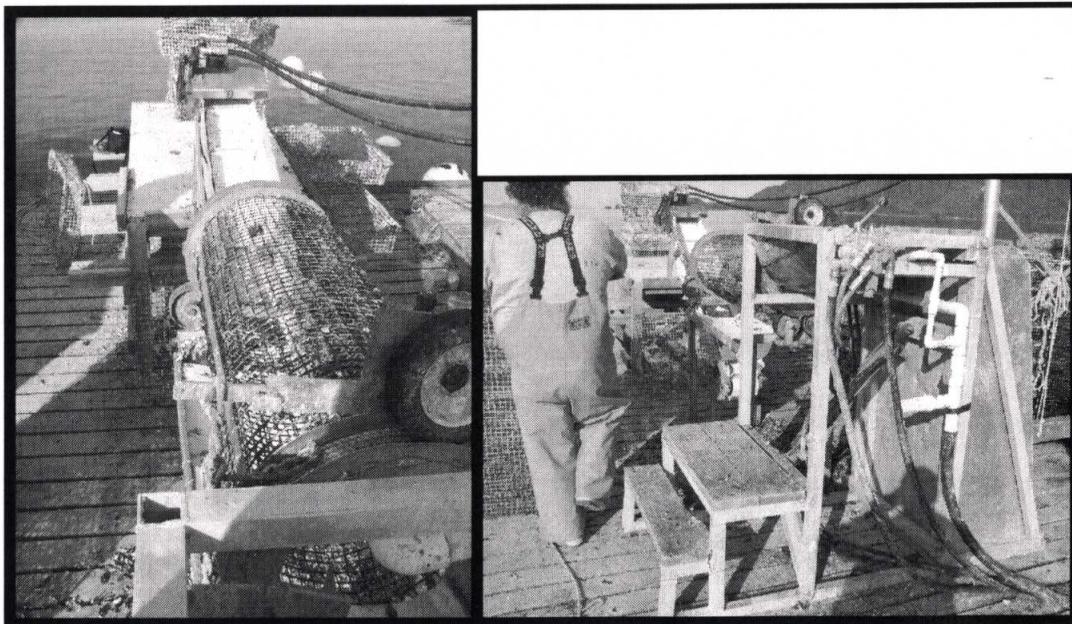
For cleaning and working the oysters, we will be building an "Automatic Cleaning System" modeled after the one that Jim Aguir (Eagle Shellfish Co.) built for his farm.

Unlike Jim's system, however, our plan is to use electrical winches and motors if at all possible. We plan to run them from a battery / inverter system which will be charged by solar (and, once funding is available, wind), with a generator as a back-up for charging the batteries. Water for washing down the stacks and cleaning the oysters will come from either an electric or gas-driven marine high-volume wash-down pump using water from the site.

Basic ACS Operation. The system incorporates a winch to lift the stacks onto a lifter, which lifts the stacks to a horizontal position from which the worker can empty the individual trays into a hopper. The hopper feeds them into the tumbler / cleaner drum where they are tumbled, spray-cleaned, and the new growth is knocked off. At the end of the tumbler they feed into a conveyor belt that will dump them into another hopper. This second hopper will feed the oysters onto the sorting table on demand of the worker. The worker will then sort the oysters (dead, small, market size, etc.) and clean those that still need some touch-up. He will then re-pack them into trays at the table. Once done sorting, he will re-stack same-size trays into stacks and start putting them back into the water or transport them to the hardening beach prior to final marketing readiness.

Our system will incorporate other improvements that Jim has recommended, as well as those we may learn by then from the unit we will operate at Rocky Bay Oysters, LLC's site on Mosman Island.

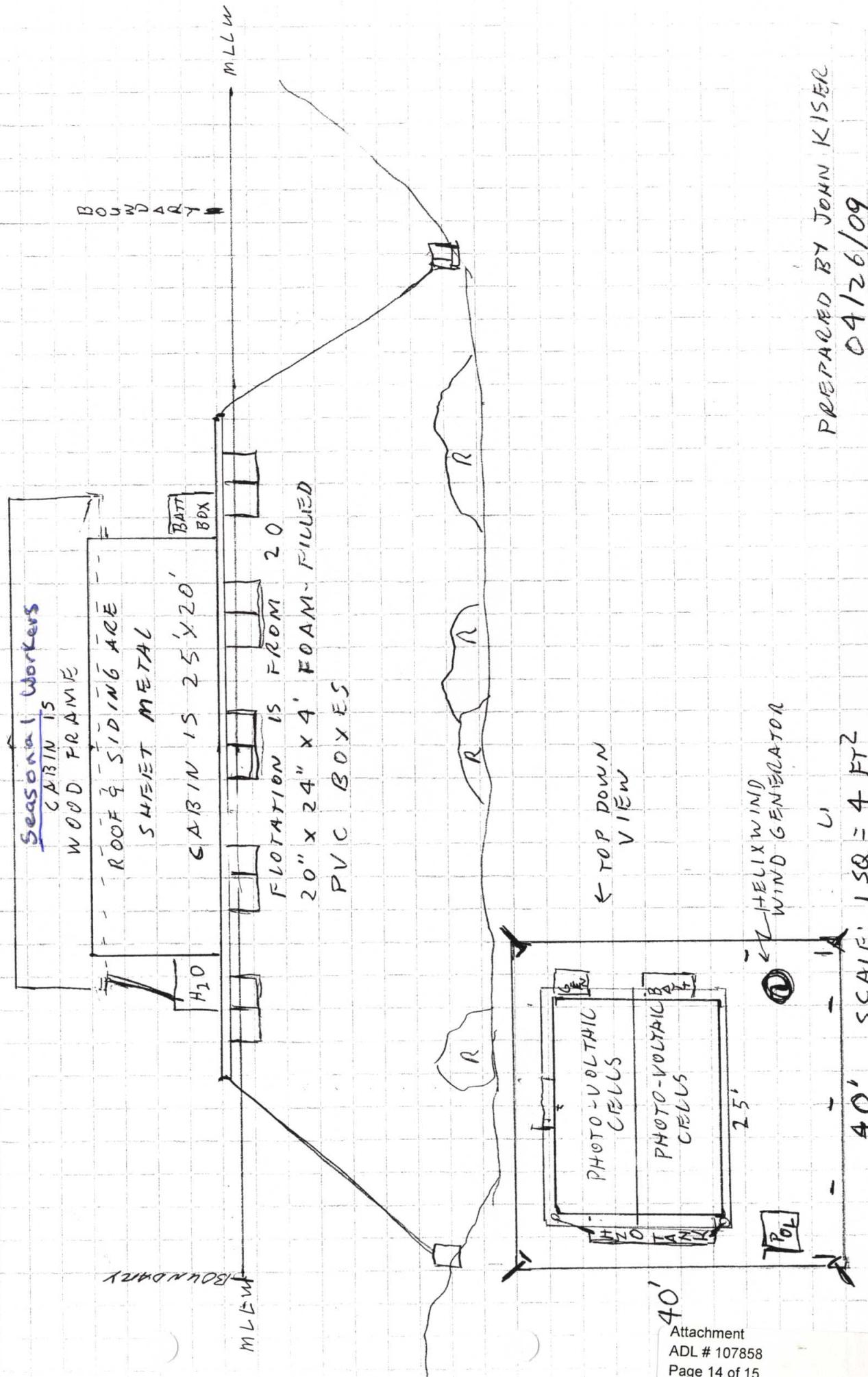
More information on this system, including short videos showing it in operation, can be found at:
http://www.akshellfishresources.org/ak_shellfish_resources_web_site/html/Of_06_growing_techniques_04_52_buoyed_mech_cleaning_system_2008.html



2009 AQUATIC FARM PROGRAM
APPLICATION - ENCL II

TATOOSH OYSTERS, LLC
CROSS-SECTION DIAGRAM - WORKER'S FLOAT (B'-B)

SCALE: 1 SQ = 2 FT²



40' SCALE: 1 SQ = 4 FT²

PREPARED BY JOHN KISEC
04/26/09

Tatoosh Oysters, LLC Detailed Drawings

