Agenda Item Summary

BACKGROUND

Current permanent regulations do not allow for harvest of bait fish (also known as forage fish) in Oregon inland waters for commercial purposes, with the exception of the Columbia River and a small herring fishery in Yaquina Bay. Oregon Revised Statutes (ORS) prohibit commercial fishing in select inland waters such as Nestucca Bay (ORS 511.606) and waters of Curry County (ORS 511.206 and ORS 511.306). This exhibit discusses allowing commercial harvest of baitfish in select inland waters and provides an approach to rulemaking by the Oregon Fish and Wildlife Commission (Commission). There are two issues: allowing harvesting of anchovies to be used as live bait in the commercial albacore fishery, and accommodating a long-term small volume shorebased bait business operating in Winchester Bay.

Forage Fish Management

Bait fish, also known as forage fish or Coastal Pelagic Species (CPS), are managed jointly through federal and state processes. The Pacific Fishery Management Council (Council) adopted the CPS Fishery Management Plan (FMP) in June of 1978. At that time, it was titled the *Northern Anchovy Fishery Management Plan.* The FMP was specific to management of the northern anchovy fishery until 1998, when an amendment was accepted that expanded the FMP to the entire CPS fishery. Stocks managed under the CPS FMP include Pacific sardine, Pacific (chub) mackerel, northern anchovy, market squid and jack mackerel.

The Commission has the authority to implement regulations governing CPS fisheries that are consistent with or more restrictive than those implemented federally. Most notably, the Commission is responsible for management of the Oregon Pacific sardine fishery, in which participation is limited through state rule. Northern anchovy fisheries occurring in the ocean have been managed through the Oregon Department of Fish and Wildlife's (department) Developmental Fisheries Program. Inland fisheries, such as anchovy fisheries in the Columbia River and the Yaquina Bay roe herring fishery, are managed through state rule.

Albacore Fishery

Interest has been expressed by the albacore tuna live bait fishery to deliver albacore tuna into Oregon. The barrier to doing so for a portion of the fleet is the inability to harvest their own bait in Oregon inland waters. Bait used in this fishery consists of live anchovies. Fish are caught with circle nets such as a lampara net (Figure 1). The captured school is brought to the side of the large catching vessel. Fish are "scooped" out of the lampara net using a small volume dip net, generally able to hold five to eight pounds of anchovies. The bait is then deposited in a live well on the vessel, where it is kept live and used to "chum" a school of albacore tuna.

According to industry members, the conditions to fish bait must be just right. Considerations are given to tidal, current and weather conditions. The

estuary must also be big enough to accommodate the activity. Anchovies must be present in high numbers. There are occasions when anchovy are present in very high abundance in coastal estuaries. They are visible in dense schools that may allow clean harvest for the live bait fishery without excessive bycatch. These "balls" of anchovies in the bays are not common and are hard to anticipate.

The bulk of the albacore tuna live bait vessels are represented by the American Albacore Fishing Association (AAFA) and the Western Fishing Boat Owners Association (WFOA). Rough estimates based on AAFA's current roster indicate that they have approximately 33 bait boats, of which 16 catch their own bait; the remainder purchase live bait. It is estimated that the number of AAFA vessels delivering into Oregon may increase to 19 or more.

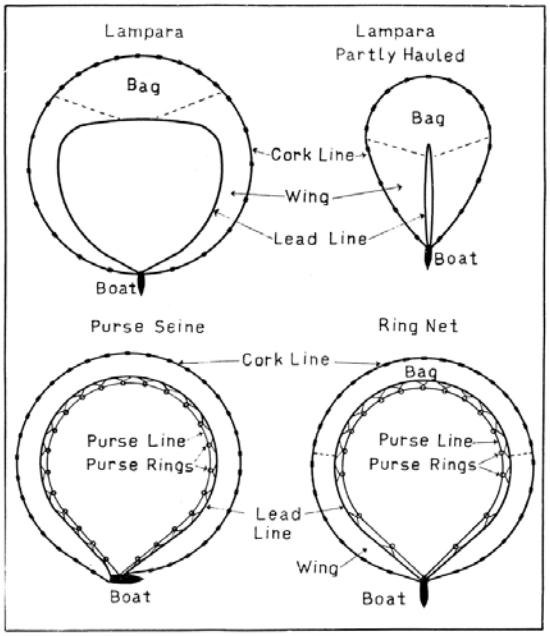

Figure 1. Diagram to show lampara, purse seine, and ringnet just before hauling. Upper right corner is a lampara partly hauled. (http://content.cdlib.org/view?docId=kt3z09n6cs&doc.view=frames&chunk.id=d0e88&toc.depth=1&toc.id=d0e88&brand=calisphere)

A smaller number of bait boats are represented by WFOA; approximately 20. While all of those boats purchase live bait from dealers, five to six vessels are equipped to harvest their own bait if needed.

A temporary rule allowing the activity of harvesting bait in inland waters was filed in 2008, and again in 2009. This rule, specific to anchovy harvest, contains gear and time specifications, as well as reporting requirements. The temporary rule filed this year is shown in Attachment 3.

The activity of catching bait in inland waters, while mostly prohibited in Oregon, is allowed in Washington in Grays Harbor and Willapa Bay, and throughout California. Some in the industry have said this motivates albacore tuna vessels to deliver in these areas, where they can replenish their live bait supply while delivering, rather than delivering in Oregon ports.

Shorebased Operations
Commercial fishing in Oregon inland waters was prohibited at the December 1999 Commission meeting. However, it appears the intent, as detailed in the staff exhibit (excerpts in Attachment 4) was to "*…not affect small volume dealers who, under the Oregon Fish Bait Dealer License, sell or use food fish or shellfish for bait, scientific or educational purposes, or live public display.*" At that time the proposed Oregon Administrative Rules (OARs) were structured to allow taking ocean food fish to be sold or used for bait without restrictions on gear, location or time. Subsequent to those proposed OARs, gear has been restricted to allow commercial harvest by hook and line only.

As a result of the rules adopted by the Commission, Umpqua Bait Inc., who uses beach seine to harvest bait fish in the boat basins at Winchester Bay, is not in compliance with that gear restriction. This company has been in existence reportedly since 1964 with little change in operation. Landings records show that less than 40,000 pounds of bait fish have been harvested annually by Umpqua Bait Inc. since 2001. Harvested fish include sardine, herring, smelt, anchovy and shad. Fish are either sold live at the dock, or trayed and frozen to be marketed coastwide.

PUBLIC INVOLVEMENT

Department staff met with members of the AAFA and the Oregon Albacore Commission. Staff also discussed the issue of allowing harvest for live bait with the Developmental Fisheries Board in August 2008, although no potential live bait harvesters were present.

ISSUE 1 — ADOPT RULES GOVERNING ANCHOVY HARVEST FROM INLAND WATERS

ANALYSIS

Anchovy (*Engraulis* spp.) are small, schooling pelagic fish that play a key role in transferring energy from marine primary and secondary producers to higher order consumers. Anchovy eat phytoplankton and zooplankton and are important prey items such as piscivorous (fish-eating) fish, seabirds, and pinnepeds (seals and sea lions). Understanding the importance of anchovy as prey for fish-eating predators is essential for an ecosystem-based fishery management system. Most information available is relative to the dependence of brown pelicans and least terns on anchovy prey. Brown pelican abundance has been directly correlated with anchovy abundance.

Anchovy are most abundant in strong upwelling regions of the world's oceans. The California Current large marine ecosystem, which includes the waters of the Pacific Ocean off the coast of North America from Vancouver Island, Canada to Baja California, Mexico, is one of these upwelling regions. Northern anchovy (*Engraulis mordax*) is one of the dominant species found in these waters. Anchovy abundance seems to fluctuate inter-annually, out of phase with sardine (*Sardinops sagax*) in a manner that appears to be related to oceanographic conditions, and there is evidence that this has occurred for centuries. Both of these coastal pelagic species known as forage fish are short-lived and are thus particularly sensitive to environmental conditions

because their population size can change dramatically from year-to-year depending on annual recruitment success. Anchovy numbers typically decrease when surface water temperatures are warmer along the coast of the Americas and upwelling is dampened, such as typically occurs during persistent El Ninõ Southern Oscillation conditions and when the Pacific Decadal Oscillation index is positive. Sea surface temperature and the previous year's abundance of northern copepod (i.e. a small crustacean that is important prey for anchovies and other fish species) species are strongly correlated with anchovy abundance off the Oregon coast (Litz et al. 2008).

Three subpopulations of northern anchovy are recognized. The northern subpopulation occurs in waters off British Columbia to northern California. The central, and most abundant, subpopulation is found off San Francisco to Magdalena Bay, Mexico. The southern subpopulation is associated with warmer water off central and southern Baja California, Mexico.

The habitat for the northern subpopulation of northern anchovy includes estuarine and marine waters across the continental shelf and slope off the U.S. west coast. The primary spawning area for this subpopulation is thought to be in the Columbia River plume, where eggs and larvae have been found to be concentrated (Laroche and Richardson 1980; Richardson 1981; Emmett et al. 1997). Juvenile anchovy movements into the estuaries in the Pacific Northwest are linked to physical transport mechanisms including wind-driven and tidal transport (Miller and Shanks, 2004). Little work has been done to evaluate the abundance of anchovy in estuaries in the Pacific Northwest, but what has been done suggests there is considerable year to year variation. Once in the estuaries, anchovy are one of many prey items for juvenile salmonids (Ellis 2002).

As detailed previously, the request from the albacore tuna live bait industry is to be able to seine anchovies in select inland waters to be used as live bait on their own vessel. The most frequently raised concern of allowing this activity is potential impacts to juvenile salmonids rearing or migrating through the estuary. The proposed time period (July 1 through October 31) occurs within the peak outmigration period for juvenile Chinook in coastal systems.

Little data is available on which salmonid impact estimates could be based. Information was provided by staff in affected watershed districts. Information consists of long-term (up to 20 years in some systems) sampling of juvenile salmonids in estuaries; however, other species of non-targeted fish were also captured. This information was collected using beach seines at routine sampling sites along the coast. Sampling time periods varied by system, beginning as early as March and ending as late as December.

Overall, anchovies were present in a limited number of shore based sets throughout most systems sampled. Anchovies were most prevalent in the lower portions of the estuary and were found from May through September. This coincides with high estuary use by juvenile Chinook. However, the July 1-October 31 time frame for the proposed fishery would largely avoid Coho salmon smolt since they are almost all out of the bay by late June.

Staff are attempting to observe the harvesting of bait in order to collect information on the species presence in the catch. As of July 7, 2009, we have been unsuccessful, as few boats have come into Oregon to deliver and/or bait up, and the tide/current/weather conditions have not been conducive to harvest bait. As a result, no direct observations or sampling of anchovy catch using the gear previously described has been possible.

Additional challenges include monitoring and tracking the activity. This fleet is nomadic in nature, porting from Westport, Washington to San Diego, California. Successful tuna fishing demands that vessels follow them along the coast as the fish may move in any direction, depending on the location of warmer water. Thus, a vessel that delivers into Oregon once may not return again in the same year.

Generally, vessels offload tuna when initially reaching port. They may have live anchovies aboard the vessel in the event they did not use all the bait they had while fishing. The remaining bait is kept live on the vessel for future use. State rule (OAR 635-006-0001(11)) defines a landing as *"… to begin transfer of fish from a fishing vessel. Once transfer begins, all fish aboard the vessel are counted as part of the landing."* This requires that any live bait on board the vessel be removed. As anchovies are a delicate species that does not survive handling well, this is not practical. The vessel will re-bait after off loading target catch, and leave port. Also, to be able to monitor the activity, a call-in procedure, developed in consultation with Oregon State Police (OSP) is included in Attachment 6, draft OAR 635-004-0042 (7), requiring notification to OSP 12 hours prior to fishing. This will allow OSP to monitor compliance on the vessels, and alert them to the general activity.

Logbooks are another useful tool for monitoring catches. A draft logbook, based on a voluntary bait harvesting logbook used in California, is shown in Attachment 5. Requiring vessels to report logbook information would allow collection of bycatch information, and more timely reporting of harvest. Draft OARs in Attachment 6 contain language requiring the logbook reporting.

Based on information staff has been able to gather, allowing harvest of anchovy to be used as bait by the catching vessel in a for profit commercial fishing operation appears to be low risk to estuary ecosystem communities. We expect that because fishable quantities of anchovy are available in very visible dense schools they will provide an opportunity for a directed harvest without excessive bycatch. Additionally based on industry input, allowing this activity will potentially provide greater economic opportunities for coast communities than exist currently.

OPTIONS

1. Allow anchovies taken in inland waters (Tillamook, Yaquina, Umpqua and Coos) to be used for live bait on the catching vessel.

2. Do not allow (status quo).

STAFF RECOMMENDATION

Option 1.

ISSUE 2

ADOPT RULES GOVERNING COMMERCIAL BAIT HARVEST FROM THE UMPQUA RIVER

ANALYSIS

As stated previously, the rules as currently written do not accommodate the activities of Umpqua Bait Inc., a long-term small volume bait dealer in Winchester Bay.

Again, the most frequently voiced concern of allowing this activity is impacts to juvenile salmonids. Data provided by district staff based in Roseburg consisted of seining data collected at six sites, with three sites near the entrance to the boat basins and three sites further up river. Seining was conducted in 1995, 1998-2000, 2002-2004, and 2009, starting as early as March (4 years) and ending as late as November (1 year). This activity was conducted as a random seining, not directed at bait fish. Information provided showed that Chinook catch among sites was relatively constant, varying between 13.6 percent and 19.9 percent of total catch. Catch of bait fish was more concentrated near the boat basin, with 67.38 percent of the catch coming from the lower three sites. Bait fish are available in the boat basins beginning in May and continuing through early September. This coincides with high estuary use by juvenile Chinook. Seining data shows catches of Chinook centered around the June-July period.

Staff from the Marine Resources Program observed the seining activity of Umpqua Bait Inc. within the Winchester Bay boat basin on June 24, 2009. One set was made resulting in catches consisting of smelt and herring. No juvenile salmonids were taken during the night time operation. Umpqua Bait Inc. staff indicated that they do occasionally capture limited numbers of salmonids in their operation but the fish tend to segregate themselves from the bait fish and are easily released unharmed.

A second rule consideration with regards to this operation is that of recording actual weights on fish tickets. Current state rule requires recording actual weights landed for all species except pink shrimp. There is an allowance for recording estimated weights for pink shrimp, provided there is an acceptable method for estimating weights.

Umpqua Bait Inc. runs its operation in such a way as to preserve the scale quality of the bait fish. This requires extreme care in moving and handling the fish. For example, after capture in the seine net, the fish are walked into a holding pen, which is towed back to the holding facility using a boat. The seine site is approximately .5 miles from the holding facility. It takes over two hours to tow the holding pen back to the facility. It is necessary to move that slowly to preserve the quality of the product. In order to reduce handling, a procedure is used to estimate weights of fish and those estimates are recorded on the fish ticket. The estimation procedure is truthed by weighing fish that are later trayed and frozen.

Adjustments to OARs governing fish tickets are included in Attachment 6. These adjustments mirror the allowances for estimating weight given to the pink shrimp fishery.

Changes to the OARs as proposed by staff will bring existing bait fishing operations within Winchester Bay into compliance and result in limited risk to existing salmonid populations with the Umpqua Basin.

OPTIONS

1. Allow ocean food fish taken by beach seine in the Umpqua estuary to be sold for bait. Allow recording estimated weights on fish tickets for small volume bait dealers.

2. Do not allow (status quo).

STAFF RECOMMENDATION

Option 1.

DRAFT MOTION	I move to amend OAR Chapter 635 Divisions 004 and 006 as proposed by staff and shown in attachment 6.
EFFECTIVE DATE	Upon filing.

Literature Cited:

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Ellis, R. H. 2002. Fish use of Tillamook Bay synthesis report for monitoring conducted 1999 through 2001. Prepared for Tillamook County Estuary Partnership. 111 pp.

Laroche, J. L. and S. L. Richardson. 1980. Reproduction of northern anchovy, *Engraulis mordax*, off Oregon and Washington. Fishery Bulletin. 78:603-618.

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