



The HMSC Newsletter



September 1999

Pamela Rogers, Editor



Todd Miller
collecting

in Prince William
Sound,

Alaska

The Only "Hard" Introduction is the "Softshell Clam"!

John Chapman and Todd Miller returned from their second HMSC expedition to south central Alaska in search of nonindigenous aquatic species (NAS). John and Todd joined ten other scientists from the University of Washington; the Smithsonian Environmental Research Institute; University of California, Santa Barbara; and the University of Alaska, Fairbanks in a survey of the native and introduced marine and estuarine invertebrates of Homer, Seward and Prince William Sound, Alaska. The project was funded primarily by Sea Grant, the Regional Citizens' Advisory Council of Alaska and the U.S. Fish and Wildlife Service. They traveled by car, plane, train, and boat through some of the most spectacularly beautiful glacier, fjord, mountain, forest and mudflat areas of the world. Among the highlights was an uninhabited lagoon on the eastern shore of the entrance of Prince William Sound that was "stuffed" with sockeye salmon, eagles, seagulls and other sea birds.

This and two previous surveys have been funded as part of a risk assessment for ballast water being transported into the region. Planktonic stages of many aquatic species are

transported to Alaska via ballast water and probably other mechanisms. The Alyeska Oil Terminal in Port Valdez, Prince William Sound, is the third largest ballast water port in the United States. Major questions for the risk assessment have been: 1) how many NAS are already present in Alaska; 2) do any NAS present in Alaska produce significant ecosystem impacts and; 3) will oil exports to Asia significantly increase the risk of NAS to Alaska.

The only "clearly" established NAS found in the survey is the western Atlantic softshell clam, *Mya arenaria*. Even if we missed some other introduced species, NAS are rare relative to the diversities and abundances of the endemic biota. The answer to question 1 is therefore "no." Since *Mya arenaria* is very abundant in some areas, the answer to question 2 is definitely "maybe" at this stage. Question 3 is perhaps of greatest concern because Alaska oil was previously sold only in the United States. Exports to Asia are now legal and are expected to increase as the Asian economy grows. New ballast water sources of NAS from cold water ports of Asia have thus emerged.

So far, NAS of the northeast Pacific appear to be derived from warm water areas. The numbers of benthic and fouling NAS decline severely with latitude in the Northeast Pacific between San Francisco Bay, California, Puget Sound, Washington and Prince William Sound. The NAS in Puget Sound are concentrated in the warmest water areas, and many more NAS occur in San Francisco Bay than Puget Sound. Moreover, nearly all NAS of Puget Sound occur in San Francisco Bay. These patterns indicate that low temperatures, or ecological conditions associated with low temperatures, inhibit the establishment of NAS in northeast Pacific estuaries.

The native biota of the Prince William Sound (PWS) ecosystem is similar to the rest of the West Coast even as far south as San Diego. The aquatic ecosystems of these regions, therefore, may also be similar. The risk of introducing more warm water NAS to Alaska therefore appears to be remote (barring significant climate changes) since it hasn't already happened. The careful search for NAS in Alaska was conducted, in part, to test whether cold water species, unknown further south, may have been introduced to Alaska, but none have been identified so far.

The Alaskan ballast water risk assessment hangs on whether the new, direct routes from cold water areas of Asia may be riskier sources of ballast water introductions than U.S. ports. (Perhaps we are confusing cold water NAS from Asia in Alaska with native species.) Whether the cold water of the extreme northwest Pacific creates a major biogeographical barrier to species between Asia and southeast Alaska has therefore merged from an

obscure curiosity for biogeographers to a major biopolitical question.

The next step of a "risk assessment" therefore requires a comparison of the differences between the floras and faunas of northeast Asia and southeast Alaska. There are many similar species between the two regions. There may be a high risk of transporting species to Alaska from Asia with ballast water that did not exist previously if a northwest Pacific cold water barrier to dispersal exists. On the other hand, such a barrier may not exist and there may be only a minor risk of ballast water introductions from Asia if the "similar" Asian and Alaskan species are really the same species. The library and museum work John will doing for the rest of his time on this project, to address this third question, will not be

as glamorous as the field work in Alaska. However, it can be done in a warm lab when Alaska gets really cold.

HMSC Fall Blood Drive

Monday, October 11

10:00 a.m. - 3:30 p.m.

Please mark your calendars for the fall blood drive. This is in the Red Cross self-contained mobile unit that parks by the Education Building. To reserve a time, please contact your building blood drive recruiter or call Pam Rogers in the Director's Office at 7-0212.

If you are unable to give blood, please consider volunteering to help as a registrar or in the canteen. Cookies, crackers and juice are also needed.

Give the gift of life!

Sea Grant to Install Low-Power Radio

Plans are underway to install a 100 milli-watt radio station in the HMSC public parking lot.

Jon Luke, Visitor Center manager, is working on the project with graduate research assistant Erin Williams. Erin was instrumental in getting two similar stations operational at Boiler Bay and the Port of Newport.

Although the 100 milli-watt station is more localized, it was chosen over the more involved 10-watt LPR for several reasons: it is more affordable, involved fewer restrictions (no broadcast license is required) and is more flexible (i.e., sound effects and music can be included)

Equipment for the LPR has been purchased and the system is expected to be operational by November 1. A 2 1/2' x 2 1/2' gray, weatherproofed box encloses the telephone, from which messages can be uploaded. At this time, plans are to mount the antenna between the ODF&W building and the HMSC Visitor Center or West Wing portion of the facility. The broadcast radius will be a half-square mile.

The purpose of the LPR broadcast is to provide HMSC visitors with information about the Visitor Center and related activities such as the estuary trail, programs and activities. "Need to know" messages, such as Visitor Center hours and activities and other visitor services will be broadcast between 8-4 daily. "Nice to know" messages will be broadcast the remainder of the day and will include interpretive and stewardship topics, such as the estuary trail, whale watching and others.

Erin, who is a graduate research assistant in Marine Resource Management, developed the Boiler Bay system under the supervision of Bruce DeYoung, Sea Grant Marine Extension

Specialist. This system has been operational for a little more than a year and transmits messages primarily about gray whales: their history, their migration and viewing tips. She was then recruited to develop a similar system for the Port of Newport, which was installed this past May. Information from this site includes an overview of the Port, facts on commercial and sport fishing, when to buy fresh fish, and identification of various gear on fishing boats.

Agencies housed at HMSC are invited to submit messages to be included in the broadcast. Contact Jon Luke if interested.



Gayle Hansen

displays an
algal

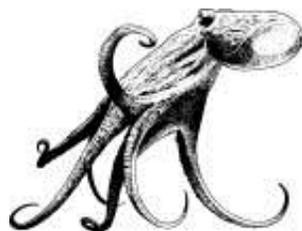
herbarium
sample

HMSC Researchers Attend the 16th International Botanical Congress

The International Botanical Congress (IBC) took place early in August this year in St. Louis, Missouri. Nearly 5,000 scientists from more than 100 countries attended the meeting. During the very important nomenclature sessions held only every six years, the IBC voted to keep the rules for naming plant species separate from those for animal species. There were presentations on the changes in our understanding of phylogeny brought about by molecular biology, and there were discussions about adopting a phylogenetic method of nomenclature instead of the traditional Linnean binomial system. One suggestion was for monomial names in which *Homo sapiens* would be *Sapiensor* perhaps *Sapiens 123*. Although the nomenclature sessions were the most heated, there were also numerous other symposia and over a thousand posters presented on other aspects of botany.

Since the Phycological Society of America met with IBC this year, three OSU researchers attended the meetings. Following along with the general theme of the Congress, Jane Lubchenco gave a stirring plenary address on "Science and Society: A New Social Contract" in which she discussed the critical roles of science and government in protecting our increasingly threatened environment. Pat Wheeler presented two posters with Mariachiara Naldi: (1) " N^{15} Uptake by Macroalgae: Comparison of Net Nutrient Decrease and Thallus N^{15} Accumulation," and (2) "Sequestering of Iron in Marine and Estuarine Ecosystems by Marine Macroalgae." Gayle Hansen presented two posters on Alaskan introduced species entitled: "A Biogeographical Study of the Seaweeds of Port Valdez," and a poster with S.M. Boo and T.O. Cho on "Phylogenetic Relationships among Selected Ceramieae (Rhodophyta) based on Nuclear SSU rDNA Sequences."

Even with the temperatures in the 90s, almost everyone managed to sneak out of the air-conditioned meeting to visit the beautiful Missouri Botanical Gardens. However, all the OSU delegates were happy to return to the more moderate temperatures in Oregon.



Visitor Center says Goodbye to an Old Friend

About 30 staff and volunteers from the HMSC Visitor Center were present on Thursday, August 26, to say goodbye to a good friend. Rhett, the Giant Pacific octopus that has been featured center-stage in the Visitor Center for the past 13 months, was released back into the ocean.

The release went very smoothly for both octopus and Visitor Center staff. Aquarists Hamdi Ogut and Todd Miller guided Rhett into a 33-gallon trash can and carried the can out to the south jetty. With the help of Marine Education Specialist Bill Hanshumaker, clad in wetsuit and staffing the deep-water end of the operation, the can was lowered into the jetty. Rhett, displaying his usual inquisitive and cooperative nature, easily swam off, hopefully to find a mate and perpetuate his species.

For a short while, Rhett was a "Scarlett." When he first came to the Center as a tiny three-pound octopus, HMSC staff did not detect a hectocotylus, the portion of tentacle in male octopuses used for sperm transfer. That meant their new tenant was a female. Volunteers named her Scarlett, because of her deep red color. Several months later, sharp-eyed volunteer Shirley George noticed a hectocotylus, so "Scarlett" became "Rhett."

The HMSC has featured an octopus for the past 30 years. The 1997 remodel of the Visitor Center included a new octopus tank with three clear acrylic walls to enhance viewing. Under the supervision of volunteers, visitors have been allowed to put their fingers in the water to be "tasted" by the current resident. "Rhett has been great about allowing visitors to touch him," said volunteer Don Kennedy. "He's one of the most mild-mannered octopuses we've had in recent years and we'll miss him. Because of his good nature, we've been able to educate visitors of all ages about the real disposition of octopuses. We try to dispel the myth that octopuses are dangerous, ferocious creatures out to get humans. They are actually gentle and intelligent animals."

Aquarists Ogut and Miller are deciding what to put in the tank until another octopus becomes available. Any help soliciting donations of an octopus would be appreciated. Donors should contact Ogut and Miller.



Sun Sets On Imitational Tourney: Annual Golf Fest Highlighted

by Darkness, Delinquency

The 1999 HMSC Imitational Golf Tournament was deemed a rousing success by those attending. Twenty-eight players, including four golfers, turned out for the August 19 meet. Notable this year was the number of first-time entrants to the Imitational. The seven teams endured nine holes of close competition before surrendering to the siren call of the clubhouse, where awards were presented over the traditional feast of pizza and suds. Also new this year was the unusual finish, with the last two teams coming up the final fairway in complete darkness.

This year was the best attended in quite awhile. The roster included players from OSU, ODFW, NMFS, USFWS, EPA, and the Oregon state legislature. Rep. Terry Thompson, of Newport, felt at home with the rest of the lineup. Said Thompson, "Man, I'm glad I'm not the only one in tennis shoes." Other pre-game highlights included the traditional Schindler cigar handouts, and Chris Fox showing off the capacity of his new golf bag (holds a lot of clubs, too).

As always, the first tee was the site of the Shortest Drive Award. This year's trophy went to John Amos of EPA, whose incredible two-inch blast easily bested all others. John proudly signed the toilet seat at the banquet, and the look on his face told you he'd never before been honored with such a beautiful trophy.

Once the teams were off and playing, the air was filled with the sound of whiffing clubs, cries of "Fore" (and other things), and the gentle splash of balls landing in the many creeks lining the fairways. The teammates of Sarah Courbis were enthusiastic in their description of the height of the splash her ball made, earning her the fashionable Blue-Spiked Sandals. Sarah will be wearing them in next year's tournament. What an eyeful!

It was that animal, Sue Sogard, that hit the Longest Ladies drive. A super-smash hit took her about a quarter-mile up the ninth fairway, and earned her those great foam practice balls. Remember, don't open the package, we need them for next year. And our shortest driver is also our longest, with John Amos getting the dozen roses for Longest Men's drive. Won't they look great with that toilet seat!

Some players headed straight down the fairways. Others took a more exploratory route. Steve Kupillas of ODFW showed the most adventurous and inventive routes from tee to green, and as a result was presented with the Most Lost Balls award. Steve thought the egg crate full of golf balls was nice, but thinks they ought to be glued in for safety.

Rumor had it that a large, cylindrical aluminum container got loose from Deborah Goldsteini's golf bag and went rolling away down the hill into the woods, trailing a hose spitting foam all over poor Deborah and her teammates running behind. Though they offered other excuses for taking so long on every hole, we know they were looking for that keg. Fittingly, they were given the Hoover Lost Golfer Award, to the general approval of all attending.

On to the more serious awards. The winning team this year was Terry Thompson, Jennifer Menkel, Eric Nelson, and Sarah Courbis. To view the impressive beauty pageant trophy, head for the ageing lab at NMFS. An incredible score of 36 (par for the course) took home the win!

Closest to the Pin went to Bob Dziak. We didn't have the use of the marker boards this year, and nobody had a better story, so we gave it to him.

The Hack Cup, for most median score, went to the team of Chris Fox, Alan Taylor, Leah Feinberg, and Michele Holman. Their score of 39 was truly one of the great examples of mediocrity of our time. See Alan to get a look at this fine example of cheap imitation depression glass.

Finally, the badminton racket. Yes, the Try a New Sport (Last Place), But Best Use of Greens Fees award went to the team of Keith Matteson, Justine Benson, Fran Recht, and Bud Balloch with a score of 43. Even a spectacular "under the headlights" finish wasn't enough to keep them from the clutches of this despised thing. Maybe if they take up badminton, they can win some new clubs.

After Matteson's team came in from the blackness of the night, all went back into the clubhouse and found that Dziak's team had eaten most of the pizza already. So more was ordered and everyone stuffed themselves, toasted a fine evening of golf, and practiced the gentle art of constructive criticism of each other's game.

HMSC Picnic, Saturday, September 11

Newport was fogged in most of the day on Saturday, but that didn't matter inland at Moonshine Park in Logsdon. The sun was shining and the water was warm. Visibility was excellent in the shallow riverwe saw several young trout and a few fly fishermen. A number of campers had already set up their tents and were enjoying the sunshine, fresh air and open spaces.

If you haven't been to Moonshine Park, don't miss the next big opportunitythe HMSC picnic on September 11. Plan to arrive about 1:00 and we'll eat around 3:00. The Center will provide albacore, pork loin, corn on the cob, hot dogs and soda. You'll need to bring a salad, side dish or dessert, as well as your spouse, best friend, kids, etc. There will be games for all ages. Camping is permitted, so you're welcome to bring your tent

and stay over Saturday night.

Personnel Notes

Joe O'Malley has defended his Master's thesis on sablefish otoliths and is on his way to a new position (yet to be determined) on Oahu, Hawaii. Congratulations and best wishes, Joe!



Congratulations also to **Jon Luke** and his new bride Roberta Cooper! Jon is the Visitor Center Manager. His coworkers held a "shower" of confetti to honor his nuptials. Jon and Roberta were married on Saturday, August 14 on the beach at Bayshore, under an arch of driftwood.



Ken Hilderbrand has received two professional recognition plaques for his outstanding leadership as national coordinator of the Hazard Analysis and Critical Control Point training program to improve seafood safety and comply with new federal regulations. The Group Honor Award for Excellence was awarded by the U.S. Department of Agriculture and the other award was from the Cooperative State Research, Education and Extension Service. Congratulations on a job well done, Ken!
