

# Merrymeeting News

The Newsletter of Friends of Merrymeeting Bay • P.O. Box 233 • Richmond Maine 04357

## SUMMER 1997

*To Preserve, Protect  
and Improve the  
Natural Ecosystems  
of Merrymeeting Bay.*

Friends of Merrymeeting Bay is a 501c3 nonprofit organization. Support comes from members, tax-deductible donations and grants.

### Education

Hands Around the Bay, speaker series, field trips.

### Conservation & Stewardship

Protecting traditional conservation resources through private ownership, easements and stewardship.

### Membership Events

Swan Island picnic, paddle tour of the Bay, field trips, conservation meetings, potluck suppers and shoreline clean-ups.

### Research and Advocacy

Water quality data collection, analysis and protection.

### 1997 Steering Committee

Frank Burroughs, Bowdoinham  
Dana Cary, Topsham  
Ed Friedman, Bowdoinham  
David Hunt, Dresden  
Tad Hunter, Topsham  
Esther Lacognata, Topsham  
Bob Lenna, Bowdoinham  
Don and Joan Lipfert, Woolwich  
Pat Maloney, Topsham  
Tenley Meara, Topsham  
Jay Robbins, Richmond  
Karin Tilberg, Bowdoinham  
Warren Whitney, Bowdoinham

### Executive Director

Betsy Ham, Bowdoinham

### Web Site

<http://www.col.k12.me.us/mmb/>

## MARK YOUR CALENDAR!

### STRAWBERRY FIELD DAY

Due to unusually late ripening look for FOMB tables with information and a raffle on July 12th or 19th instead of June 28 at Prouts, Poppo and Green Point Farms. We will be in the fields most of the day.

### THE ANDROSCOGGIN RIVER SOURCE TO THE SEA CANOE TREK

The Source to the Sea Canoe trek will reach Merrymeeting Bay on July 15. FOMB will host this day of the trip along with the Appalachian Mountain Club. Call Betsy Ham at 666-3376 if you are interested in paddling. For more information on the rest of the Trek call Bob Collins at 582-6707.

**WHEN:** Tuesday July 15 starting at 9 AM

**WHERE:** Meet at the Brunswick boat launch at the end of Water St.

### AN AFTERNOON OF HISTORY AND ENTERTAINMENT

Author Catherine Petroski will read and discuss her book A Bride's Passage: Susan Hathorn's Year Under Sail. Then folk singer and song writer Victoria Parks will sing traditional songs. See related article on page 3.

**WHEN:** Sunday August 3: 1:30 PM. Catherine Petroski; 3:00 PM Victoria Parks

**WHERE:** St Matthias Episcopal Church, Spring St. off Gardiner St. in Richmond

### SWAN ISLAND SUMMER PICNIC

Don't miss our fourth annual picnic and overnight on Swan Island. See Related article and registration form on page 4. Please register in advance by August 13.

**WHEN:** August 16 and 17 Saturday and Sunday. Rain or shine meet at 10 AM.

**WHERE:** The Public Dock in Richmond, take the launch or paddle to the Island.

### RARE PLANTS MUD WALK

Join Dr. Barbara Vickery, botanist and rare plant specialist to discover the rare and unusual plants of Merrymeeting Bay.

**WHEN:** September 6 from 9 AM - 11AM

**WHERE:** Bowdoinham Town Landing

## ANNUAL MEETING TO BE JULY 24

JOIN US FOR FOMB'S ANNUAL MEETING on July 24 at 6 PM at the historic Pownalborough Court House in Dresden. From Richmond cross the Kennebec on Rt 197 then take a left on 128 North. Travel less than 2 miles and look for a sign for the court house which will be on your left. We will start with a pot luck supper with lots of good company and conversation. Please bring a dish to share and your own place settings. We will provide drinks. Tours of the historic Court House, built in 1761 and used by John Adams before he became president, will be available.

Friends of Merrymeeting Bay's business meeting will follow with an update of this years accomplishments and future goals, election of steering committee members and a proposal to amend the Bylaws. The nominating committee will present steering committee nominations. Nominations may also be made from the floor.

*continued on page 2*





## DIOXIN UPDATE

**T**HE GOVERNOR'S DIOXIN BILL LD 1633 was signed into law on June 10 at a press conference in Hallowell. Following a massive and well financed campaign by the paper industry and the producers of sodium chlorate (the raw material essential for production of chlorine dioxide) our legislators showed their lack of awareness of the issues by voting to support a 40 year old bleaching technology that does not eliminate dioxin, and a costly monitoring system which may or may not assess the damages. They chose the Governor's bill instead of a pollution prevention solution that



eliminates chlorine products from the bleaching process.

Meanwhile hundreds of people continue to fish around Merrymeeting Bay, unaware that the State has

increased fish consumption advisories due to mercury, PCBs, and dioxin. Many do not realize that the Bay is downstream of eight papermills that will continue to discharge dioxin and a wide range of other toxins into Maine's rivers. FOMB will now take the lead in ensuring fish consumption advisories are posted in the Bay area.

Special thanks are due to Representative David Shiah, the only Bay legislator to support Tom Bull's bill LD 1577. This bill called for the use of totally chlorine free (TCF) technology to help clean up our rivers in a safe and economically viable manner.

-Ed Friedman

## ANNUAL MEETING

*Continued from page 1*

The following changes have been proposed to be made to the Friends of Merrymeeting Bylaws:

1. To make grammatical and typographical changes; and
2. To clarify the duties of the Steering Committee; and
3. To change the quorum necessary for all meetings of the membership; and
4. To change the Annual Meeting to the fall of each year.

If members would like to receive a copy of the revised bylaws call 666-3376.



Summer 1997  
VOL.7, NO 3  
July 1997

### *Merrymeeting News*

is the newsletter of Friends of Merrymeeting Bay, P.O. Box 233, Richmond, Maine 04357, and is published seasonally. *Merrymeeting News* is sent to FOMB members and other friends of the Bay. For information call Betsy Ham, Bowdoinham 666-3376.

## 1997 FOMB/MITA SPRING CLEANUP REPORT

**S**pring clean-up of Merrymeeting Bay was on May 17. FOMB and the Maine Island Trail Association (MITA) again cosponsored the event. We ended National River Cleanup Week by picking up an estimated 4600 pounds of debris. Forty-one people filled some 70 large trash bags with such things as pieces of plastic, plastic bottles of various sorts, glass beverage bottles, lots of broken glass, metal cans of various types, and 93 disposable lighters. We also gathered 84 tires and other assorted debris, including 55 gallon drums, pallets and corrugated metal roofing.

The cleanup actually started on May 8 when Kate Cutko, a guidance counselor at Kents Hill School invited a group of students down to the Bay.

On May 17 we covered

Abagadasset Point, Butler Cove, Bird Island and a stretch of the Muddy River. Students, and some parents, from Brunswick and Falmouth High Schools, as well as those from Kents Hill, took part. Participants ranged in age from 3 through about 80. Fortunately, the weather was great for working and playing in the mud.

Sunday, May 18, five of us spent 13 man hours collecting trash caches from the day before and then David Mann and I took it all to the Bowdoinham Recycling Barn where we inventoried and sorted the material. Many of participants who had taken part last year noted that overall things appeared a bit better than last year. This is encouraging. Many thanks are due to all who have made this possible.

- Ed Friedman

## SPRING SIGHTINGS

**W**ildlife sightings have been reported from around the Bay. We received a wonderful report about the Androscoggin River in Topsham, where ospreys, eagles, loon, ducks, mergansers, ring necks, golden eyes, warblers, woodcocks and snowy egrets were observed. From Twings Point on the Kennebec in North Woolwich pileated woodpeckers and eagles were sighted. Nearby in Lilly Cove eagles, a scarlet tanager, bobolinks and two wild

turkeys with chicks were seen. Mrs. Hinds, Mrs. Giggy and Mrs. Melander's first grade classes at Bowdoinham Community School visited Merrymeeting Wildlife Management Area in Bowdoinham on the morning of June 5 and saw a redwing blackbird, a bobolink, great blue herring and giant bull frog. We would love to hear from you! Send in your observations of "what, where and when" to Joan Lipfert at 443-8751. If you need sightings cards, call Joan.

- Joan Lipfert

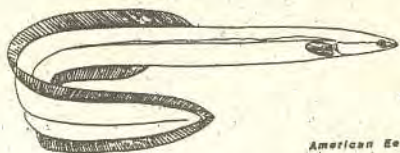


## TIDINGS / SUMMER

**T**HE MOST SPECTACULAR MIGRANT of the spring, the Hale-Bopp comet, disappeared in May. In three millennia, plus or minus a few centuries, we can look for it again, a soft smudge of light streaming toward the sun.

Meanwhile, there are more immediate arrivals and departures to attend to. Everybody notices the returning birds, the emergence of flowers and the shrilling of peepers, but for most of the Bay's human history, the crucial arrivals were not these, but the ones that came in from the sea, up the Kennebec, and fanned out into the Bay and its tributaries, or continued on upriver. These were salmon and shad, alewives and stripers, moving up the coast as the weather warmed, or inshore from the waters off Greenland and the Grand Banks. When Hale-Bopp was last seen in this vicinity, the aboriginal inhabitants were no doubt troubled by it, but probably watched with none the less anxiety for the flocks of gulls and cormorants, the gathering of ospreys and eagles and seals that would indicate that the fish, upon which their lives depended, had returned.

A few people still attend to the water with something like that degree of practical and concentrated concern for what goes on beneath its surface. The eeling season begins in the latter part of May. An eeler, who has been at it for twenty years, ever since a small commercial fishery was re-established on the Bay in the mid-seventies, tells



American Eel

me that he watches the water and watches the birds, particularly the cormorants. He is not looking for signs of anadromous fish, but for evidence of the Bay's indigenous shiners and perch, which move up the rivers to spawn in the spring. On a glassy calm morning or evening in May, you can sometimes see schools of them, dimpling the surface of the water like a light rain. In his experience, that is a reliable sign that eels will be emerging from the muddy torpor of their hibernation, and it is time for him to bait and set his pots. In the early part of the season, he finds eels mostly in the smaller rivers; later, they move out into deeper water.

From May until September, he is on the water daily, usually early in the morning, when the Bay is quiet and its life most visible. His business, like any business, is complex and full of uncertainty, and its variables are global. His eels are shipped live to Asia; they arrive here, scarcely bigger than a blade of grass, from the far-off Sargasso Sea, and have to run a gauntlet of fyke nets to reach the Bay. His preferred bait--horseshoe crab--is shipped up from the southern and

mid-atlantic coasts. The rapid development of the southern conch fishery, which also prizes the crabs for bait, has in recent years driven their price sharply upward, narrowing the margins within which he operates.

But at least for now, eeling remains a viable business, and it has significant fringe benefits. You might see an Atlantic sturgeon, a fish bigger than a professional basketball player, jump clear of the water; you might turn up something odd--a shad or a perch--in your pots. Immature sturgeon are abundant; from time to time one jumps and lands in your boat. You are aware of things: for example, a recent surge in the catfish population of the Bay--as many as a dozen at a time can show up overnight in one pot.

It is the kind of job, he says, where you look forward to going to work in the morning, and I can believe him. Between eeling in the spring and summer, and smelt fishing in the winter, to say nothing of some recreational duck hunting in the fall, he is attuned, as very few of us are anymore, to what comes and goes on and in the water. It makes the way we mostly live and work--sitting in this office, for example, and staring at these words on a screen--seem like an exercise in virtual unreality, and it is pleasing to think of a man out in the soft, watery light of an early June morning hauling up an eel pot, to find it all slithering and squirming with delicacies for the tables of Bangkok, Kyobe, or Hong Kong.

-Frank Burroughs

*This column will appear each season*

## AN AFTERNOON OF HISTORY AND ENTERTAINMENT

**R**ICHMOND DAYS CELEBRATION concludes with, FOMB and the Richmond Historical and Cultural Society teaming up to bring you an afternoon rich in history and fun on Sunday, August 3. First, at 1:30 PM Author Catherine Petroski will read from and discuss her book A Brides's Passage: Susan Hathorn's Year Under

Sail. Petroski, a prize winning fiction author, bases her new nonfiction book on the 1855 diary of a Richmond, Maine bride's year under sail.

During the break refreshments will be served and you may enjoy Dianne Salfas's paintings of Richmond scenes. Dianne is a local Richmond artist who has successfully shown in Maine and New York. Then at 3:00 PM folk singer, song writer Victoria Parks will play for us. Victoria will sing many traditional and original folk songs

including her original work "Banks of the Kennebeck" about her Richmond ancestors the Parks and their life in Fort Richmond during the late 1700's.

The events will take place at the St. Matthias Episcopal Church on Spruce Street off of Gardiner Street in Richmond. Donations will be accepted at the door. After expenses all donations will go to FOMB and the Richmond Historical and Cultural Society. For more information call Jay Robbins at 737-2239.



### PAPER CHASE

**W**E ARE NOW USING 100% RECYCLED, 100% post consumer paper for our newsletter. In addition this paper, Simpson Quest, is manufactured with fiber that has not passed through the de-inking process and is not rebleached.

If you are interested in purchasing this paper, which comes in many different colors and weights or other paper like it, call Joyce Kravetz at (207) 288-3043. Because this paper is sometimes only available in bulk and is always cheaper this way FOMB would be happy to coordinate orders. Call us at 666-3376 if you are interested.

- Betsy Ham

### HANDS AROUND THE BAY DIRECTORIES NOW AVAILABLE

**T**WO NEW DIRECTORIES, a Site Directory and a Community Resource Directory, are now available for educators in the MMB area. The Site Directory contains information about each public access site on the Bay including activities for students and site maps. The Resource Directory includes names of local experts on the Bay who are willing to talk with students, participate on field trips and visit schools. For more information call 666-3376.

- Betsy Ham

### GRANT AWARDED FOR BAY PROJECT

**T**EACHERS Pat Maloney from Bowdoin Central and Betty Hartley from Williams-Cone School have been awarded a mini-grant by the Maine Environmental Education Association for a project that focuses on the ecology of Merrymeeting Bay. Friends of Merrymeeting Bay encourages just this kind of project through our Hands Around the Bay program of which Pat and Betty are active participants. Congratulations to both teachers!



### FOURTH ANNUAL SWAN ISLAND SUMMER PICNIC AUGUST 16-17

**E**XPLORE AND CELEBRATE SWAN ISLAND with us on FOMB's fourth annual Summer Picnic. We are planning many exciting events including tours of the Island by foot, truck, kayak and canoe, wildlife watching, plant identification, overnight camping, star gazing and of course good food and good company. You may join us for the day on Saturday or camp overnight.

We will be leaving from the state

dock in Richmond for the Island at 10 AM on Saturday. When we arrive at the island we will enjoy a pot luck picnic lunch then join the Inland Fisheries and Wildlife staff for a tour of the island by truck. For those that wish, there will be plenty of time to tour the island by boat or hike on the nature trails. In the late afternoon before day guests depart, we will join together for a social hour and pot luck dinner. For our overnight guests plan on a campfire, songs and star gazing. On Sunday there will be a potluck breakfast in the morning and plenty of

time to enjoy the island.

Please Register in advance by cutting out and mailing in the attached form by August 13. Late registration may be available by phone at 666-3376 but space is limited so try to register early. Note that costs have increased this year due to increased fees at Swan Island. Bring your own food plus some to share for each meal, your own place settings and camping/over night gear. There are 10 Adirondack lean-tos each sleeping 4- 6 people or you can bring your own tent. We look forward to see you there!

### 4TH ANNUAL SWAN ISLAND SUMMER PICNIC

Friends of Merrymeeting Bay, P.O. Box 233, Richmond, Maine 04357

I / we would like to attend the SUMMER PICNIC and events on Saturday, August 16.  
\$ 6 per person / \$ 18 per family # of people: \_\_\_\_\_ Amount enclosed: \_\_\_\_\_

I / we would like to attend the SUMMER PICNIC & CAMP OVERNIGHT Sat & Sun Aug. 16-17.  
\$12 per person / \$27 per family # of people: \_\_\_\_\_ Amount enclosed: \_\_\_\_\_

I would like to join Friends of Merrymeeting Bay. Enclosed \$ 15 annual dues.  
I enclose \_\_\_\_\_ \$25 \_\_\_\_\_ \$50 \_\_\_\_\_ \$100 Other \$ \_\_\_\_\_ as a tax-deductible contribution to FOMB.

Please make checks payable to  
**Friends of Merrymeeting Bay.**

\_\_\_\_\_  
Your Name(s)

\_\_\_\_\_  
Address

\_\_\_\_\_  
State / ZIP

\_\_\_\_\_  
Phone



**THANK YOU!**

**T**HANKS TO Katé Cutko and Rob Merrifield for bringing Vanessa Mitchell, Kim Williams, Joe Anderson, Lan Hasty, Peter Buck, Phil Hammond, Michael Payne, Loretta Larrabee, Eli Talbot-Minkin, Rob Vivarelli, Jon Hoffman from Kents Hill School to help cleanup the bay on the School's Community Service Day. The Annual FOMB Bay Cleanup was a great success thanks to: Ted Scharf, Maryalice Walker, Leslie Harlains, Susan Ayers, Dana and Greg Cary, Warren, Holly and Nina Whitney, Karen Tilberg and Dave Shiah and daughter Linnea, John and Rocky Ferdico, Katie and Rita Worthing, Liz Webster, Forest Dillon, Jessica Bisson, Ed Friedman, Richard and Kay Evans, Richard Sawyer, Kate and Andy Cutko, Dennis Haggerty, Jeff and Katie Hall and daughter Erin, David Mann, Anne Hammond, and Chet Gillis. Special thanks to David Berry Bowdoinham's solid waste manager and the town of Bowdoinham for letting us recycle at the recycling barn. The Site Directory turned out well thanks to Anne Hammond for doing much of the writing and many site visits, and Jerry Provencher for his knowledge of Butler Head. Thank you to Pat Maloney and Ed Friedman for organizing the HAB Flotilla of Teachers, all the boat drivers for providing boats and escorting teachers around the Bay, Linwood Rideout for speak-

**FRIENDS OF MERRYMEETING BAY**

**STEERING COMMITTEE**

Frank Burroughs, 81 Wallentine Rd., Bowdoinham 04008 ..... 666-5979  
 Dana Cary, 1052 Foreside Rd., Topsham 04086 .....: *Treasurer* ...729-4945  
 Ed Friedman 42 Stevens Rd., Bowdoinham 04008 ..... *Chairman* ...666-3372  
 Tad Hunter, Foreside Rd. Topsham 04086 ..... 729-1544  
 Esther Lacognata, 19 Elm St., Topsham 04086 ..... 729-4088  
 Don and Joan Lipfert, RR 1, Box 650, Woolwich 04579 ..... 443-8751  
 Robert Lenna, P.O. Box 185, Bowdoinham 04008... *Vice Chairman* ...666-8421  
 Pat Maloney, 31 Bridge St., Topsham 04086 ..... 729-8941  
 Tenley Meara, RR 1 Box 96, Topsham 04086 ..... 725-2738  
 Jay Robbins, P.O. Box 9, Richmond 04357 ..... 737-2239  
 Karin Tilberg, 9 Main St., Bowdoinham 04008 ..... 666-5902  
 Warren Whitney, 145 Pork Pt. Rd., Bowdoinham 04008 ..... *Secretary* ...666-3376  
 David Hunt, River Rd. #1105, Dresden 04342 ..... 737-2511

**CONSERVATION & STEWARDSHIP COORDINATOR:**  
 Karin Tilberg, (see above) ..... 666-5902

**HANDS AROUND THE BAY COORDINATOR:**  
 Pat Maloney (see above) ..... 729-8941

**SPECIAL EVENTS COORDINATOR:**  
 Jean Parker, Hockomock Island, RR 1 Box 1785, Woolwich 04579 .... 443-0982

**EXECUTIVE DIRECTOR:**  
 Betsy Ham, 145 Pork Point Rd., Bowdoinham 04008 ..... 666-3376

ing, and Frank Hayward for hosting. Thanks to Betsy Steen for organizing our Web page. Last but not least many thanks to our steering committee for their tireless energy on all the many things we do. Did I miss you? Let me know I'll put you in next time. Thanks to everyone for their help.

**Got a minute?** Why not volunteer. We need your help to be a successful organization! Call Betsy at 666-3376.

Thank you to: Clancy Cummins for editing and Josephine Mussomeli for designing this issue of MMNews.

*Friends of Merrymeeting Bay, P.O. Box 233, Richmond, Maine 04357*

ANNUAL DUES **\$15.00**.  Renewal

- \$15.00 enclosed for individual membership.  \$20 Family
- \$30 Contributing  \$50 Supporting  \$100 Sponsoring  \$250 Sustaining  \$500+ Benefactor
- \$ \_\_\_\_\_ enclosed as an additional tax-deductible donation.

NAME \_\_\_\_\_  
 RR# OR STREET ADDRESS \_\_\_\_\_  
 TOWN / STATE / ZIP \_\_\_\_\_  
 PHONE \_\_\_\_\_

\$6.00 enclosed for a copy of **Conservation Options: A Guide for Maine Landowners.** (\$5 for the book, \$1 for postage)



### A FLOTILLA OF TEACHERS TOURS THE BAY

The Hands Around the Bay Project, sponsored by FOMB, hosted a group of dedicated and enthusiastic teachers on Saturday morning, June 7. We were treated royally and escorted by a knowledgeable, environmentally committed and fun loving group of small boat captains who had no end of stories to share about the Bay. The day just happened to be the first really warm and sunny day of the season.

We left in five boats from four sites around the Bay. For two hours each captain toured the Bay, introducing teachers to the geography, geology and the beauty of this water system as they see it. I heard one teacher say they stopped to "observe" an eel trap and one captain headed into the Kennebec in search of seals.

At 10:00 a.m. we all rendezvoused at Chop Point School in Bath where Frank Hayward, headmaster of that

school, hosted our party and provided mid-morning beverages and a building for lunch. Linwood Rideout spoke to the gathering for about half an hour, but we easily could have listened to him for half a day because he has a knowledge and love of the Bay rooted in personal history and experiences.

Linwood challenged teachers to study the salinity of the Bay, to record results of student research over time and he asked us to find out if this Bay is like any other in the world.

We gave each participating teacher (five elementary schools, one high school and one local college) a hot-off-the-press MMB site directory and guide that details information about accessible locations on the shores of Merrymeeting Bay. Each captain and our host received a complimentary ticket to the FOMB Berry Jam.

Special thanks to the participants in this event and also to the boat captains who were available if we needed them

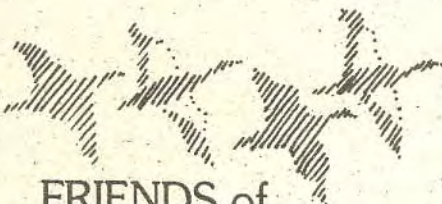
- Bruce Berry, Jim McPherson and Bob Curtis. Jerry Provencher, Anne Hammond and Betsy Steen contributed time, interest and "copy" for all to share.

- Pat Maloney



### BEAUTIFUL CARDS OF THE BAY FOR SALE

Don't forget to order cards of the Bay, with Sally Butcher's beautiful photos on the front and a quote from author Franklin Burroughs on the back. A dozen cards cost \$12. They are truly beautiful! To order your cards call me at 666-3376.



**FRIENDS of MERRYMEETING BAY**

P.O. Box 233 • Richmond, Maine 04357

Forwarding and address correction requested.

**ANNUAL MEETING JULY 24**

See page 1

Non-Profit  
U.S. Postage  
PAID  
Permit No. 1  
Dresden, ME



*part of special newsletter insert*

**We believe Maine should  
*eliminate* paper mill dioxin,  
not just reduce it.**

**We support L.D. 1577:**

◆ American Association of Retired Persons, State Legislative Committee ◆  
American College of Nurse Midwives, Maine Chapter ◆ Maine Council  
of Atlantic Salmon Federation ◆ Borealis Press ◆ C.L.E.A.N.- Maine ◆  
DownEast Nature Tours ◆ Cumberland County Greens ◆ Rev. Roger  
Smith, Episcopal Diocese, Committee on Indian Relations ◆ Friends of  
Merrymeeting Bay ◆ Friends of the Presumpscot River ◆ Johnny's  
Selected Seeds ◆ Jane Karker, Western Maine Graphics printing ◆ League  
of Women Voters ◆ Dolores Lymburner, Military Toxics Project ◆ Dr.  
Don Magioncalda, Oncologist ◆ Maine Association of Naturopathic  
Doctors ◆ Maine Council of Trout Unlimited ◆ Maine Greens ◆ Maine  
Labor Group on Health ◆ Maine Organic Farmers and Gardeners  
Association ◆ Maine People's Alliance ◆ Maine Public Health  
Association ◆ Midwives of Maine ◆ Natural Resources Council of Maine  
◆ Dr. Beverly Paigen, Senior Scientist, The Jackson Laboratory ◆  
Penobscot Indian Nation ◆ Passamaquoddy Indian Nation ◆ Patagonia  
◆ Physicians for Social Responsibility ◆ Ned Rendall, M.D., former BEP  
member ◆ Maine Chapter Sierra Club ◆ Sheepscot Valley Conservation  
Association ◆ Student Environmental Action Committee, Region 17. ◆

*(Individuals' affiliation for identification purposes only)*

**No Chlorine Compounds = No Dioxin  
Support L.D. 1577**



# ***Health Effects Associated with Dioxin and Dioxin-like Chemicals***

## ***Cancer:***

- Soft or connective tissue, lung, liver, stomach, Non-Hodgkin's lymphoma

## ***Male reproductive toxicity:***

- Reduced sperm count
- Testicular atrophy
- Abnormal testis structure
- Decreased testis size
- Decreased sex drive
- Alterations in male hormone levels -- decreased testosterone, androgen; increased follicle-stimulating hormone (FSH) and leutinizing hormone (LH)
- Feminization of hormonal and behavioral responses

## ***Female reproductive toxicity:***

- Hormonal changes
- Decreased fertility
- Adverse pregnancy outcomes -- miscarriages; inability to maintain pregnancy
- Ovarian dysfunction -- suppression of the estrous cycle, anovulation of the menstrual cycle
- Endometriosis

## ***Effects on unborn fetus:***

- Birth defects -- cleft palate, hydronephrosis
- Alterations in reproductive systems
- Decreased sperm count
- Altered mating behavior
- Structural abnormalities in female genitalia
- Reduced fertility
- Delayed puberty
- Neurological problems
- Developmental problems

## ***Skin disorders:***

- Chloracne
- Hyperpigmentation
- Eye lid cyst
- Hypertrichosis
- Actinic keratosis
- Peyronie's disease
- Hirsutism

## ***Metabolic and hormonal changes including:***

- Altered glucose tolerance and decreased insulin

levels leading to increased risk of diabetes

- Altered fat metabolism leading to elevated lipids, cholesterol and triglycerides, and increased risk of heart disease
- Altered porphyrin metabolism leading to porphyria cutanea tarda (PCT) and elevated urinary porphyrins including uroporphyrin, urobilinogen, coproporphyrin
- Weight loss, wasting syndrome
- Changes in thyroid hormones

## ***Damage to central and peripheral nervous systems leading to:***

- Increased irritability and nervousness
- Decreased pin prick sensation
- Impaired neurological development and subsequent cognitive deficits

## ***Damage to liver as measured by:***

- Elevated Gamma Glutamyl Transferase (GGT) levels
- Enlarged liver
- Elevation of liver enzymes other than GGT (LDH, AST, ALT and D-glucaric acid)
- Cirrhosis

## ***Damage to the immune system leading to:***

- Reduced size of thymus
- Increased T-4 cells
- Increased ratio T-4 to TBG cells
- Increase susceptibility to infectious disease
- Increased risk of cancer

## ***Lung problems:***

- Irritation
- Tracheobronchitis
- Decreased lung function

## ***Other gastrointestinal damage leading to:***

- Loss of appetite
- Nausea
- Damage to heart leading to circulatory disorders and heart disease

Source: USEPA, 1994 Dioxin Health Assessment draft; DeVito, Birnbaum 1994

**No Chlorine Compounds = No Dioxin  
Support L.D. 1577**



1. **What is this handout about?**

- Maine fish are good for you, and good to eat. However, like most states, Maine has some consumption advisories.
- Updated fish consumption advisories are being issued for 1997 by the Maine Bureau of Health. As new data on the amounts of toxic chemicals in fish become available the Bureau of Health reassesses advisories to include the most up-to-date information.

2. **What is new in 1997?**

- Consumption advisories due to mercury contamination were first issued in 1994, and applied to consumption of fish from all lakes and ponds. This year, mercury advisories are being modified in two ways. First, separate consumption advisories are being issued for warm water (bass, pickerel, perch, sunfish, crappie) and cold water (trout, salmon, smelt, cusk) fish species (details are listed on the flip side of this handout). Second, consumption advisories are being expanded to include all inland surface waters of the state, including rivers and streams.
- New data on levels of PCBs (suspected cancer causing chemicals) in fish caught in specific waters are prompting the issuance of new and expanded advisories on striped bass, bluefish and certain Maine rivers (details listed on reverse).
- Sampling results show that dioxin levels in fish have declined substantially since the mid-1980s. Some rivers still have levels of dioxin that have prompted fish consumption advisories. In addition, new data on coplanar PCBs must be calculated with dioxin in issuing advisories. Coplanar PCBs are found both above and below industrial discharges on some of Maine's rivers. The exact source of these chemicals is not known (see PCBs below).

3. **Some Background:**

- **Why do we care about mercury, where does it come from?**  
Mercury causes toxic effects on the nervous system. The unborn child and young children are more susceptible than adults due to their developing nervous systems. Toxic effects of mercury depend on the amount to which you are exposed. Some fish caught in Maine have been found to have levels of mercury that may be harmful to health. Mercury occurs naturally in the environment at low levels. Mercury levels are increased in the environment when mercury is released into the air from coal fired power plants, municipal/medical waste incinerators, and other industrial facilities. There are currently 34 states with mercury advisories.
- **Why do we care about PCBs, where do they come from?**  
PCBs have been shown to cause cancer in laboratory animals and may cause cancer in humans. PCBs were once widely used in electrical transformers. Because these chemicals were used extensively, accidental leaks and spills were likely to occur, and disposal of consumer electronic products into landfills would cause PCBs to be released into the environment. Municipal waste incinerators are also suspected sources of PCBs. There are currently 31 states and the District of Columbia with fish consumption advisories for PCBs.
- **How are advisories issued?**  
The Maine Department of Environmental Protection (DEP) collects and monitors fish for toxic pollutants throughout the State. The Surface Water Ambient Toxic Monitoring Program (SWAT) allows the DEP to perform these studies. Data are given to the Bureau of Health for consideration of possible health effects if certain amounts of fish are consumed. The advisories are updated as the Bureau of Health receives and assesses the new data and the Maine Departments of Environmental Protection, Inland Fisheries and Wildlife and Marine Resources have been consulted.
- **For more information:**  
For information concerning the Surface Water Ambient Toxic Monitoring Program call the Maine Department of Environmental Protection, Office of Land and Water Quality at 287-3901. For information concerning fish consumption advisories contact the Maine Department of Human Services, Bureau of Health at 287-6455.



# Maine 1997 Fish Consumption Advisories

## Maine Department of Human Services - Bureau of Health

### General Consumption Advisory for ALL Inland Surface Waters Due to Mercury Contamination

☛ *Pregnant women, nursing mothers, women who may become pregnant, and children less than 8 years old, should NOT EAT warm water fish species (bass, pickerel, perch, sunfish, crappie) caught in any of Maine's inland surface waters; Consumption of cold water species (trout, salmon, smelt, cusk) should be limited to 1 meal per month. The consumption of older cold water fish (e.g., a large lake trout) should be avoided.*

☛ *All other individuals should limit consumption of warm water species caught in any of Maine's inland surface waters to 2 to 3 meals per month. People who eat large (older) fish are advised to use the lower limit of 2 meals per month. There is no consumption limits for cold water species.*

### Specific Freshwater Fish Consumption Advisories

In addition to the general statewide advisory due to mercury contamination of fish, other chemicals (PCBs and dioxins) in fish caught in specific waters of the state have been found at levels sufficient to prompt consumption advisories for these waters. The consumption advisories listed below are more restrictive than the statewide mercury advisory for the general population, and may be more stringent than the statewide advisory intended to protect the developing fetus, infant and young child.

ADVISORY AREA		MAXIMUM CONSUMPTION LEVEL	CHEMICALS OF CONCERN
Water Body	SEGMENT	[All Species]	
All Waters	Statewide	SEE DESCRIPTION ABOVE	mercury
Androscoggin River	Gilead to Merrymeeting Bay	6 meals per year	PCBs & dioxins
Kennebec River	Madison to Edwards Dam (Augusta)	1 to 2 meals per month*	PCBs & dioxins
	Edwards Dam (Augusta) to The Chops (Bath)	NO CONSUMPTION (freshwater fish only)	PCBs & dioxins
Penobscot River	Below Lincoln	1 to 2 meals per month*	PCBs & dioxins
Salmon Falls River	Below Berwick	6 meals per year	PCBs & dioxins
East Br. Sebasticook R.	Below Corinna	1 meal per month	PCBs & dioxins
West Br. Sebasticook R.	Below Hartland	2 meals per month	PCBs & dioxins
Little Madawaska River and all tributaries	Madawaska Dam to Grimes Mill Road	NO CONSUMPTION	PCBs
Green Pond, Chapman Pit, Greenlaw Brook	All Waters (on former Loring Air Force Base)	NO CONSUMPTION	PCBs
Red Brook	All Waters (Scarborough)	6 meals per year	PCBs

\* People who eat large (older) fish are advised to use the lower consumption level, as older fish tend to accumulate PCBs, dioxins, and mercury

### Marine Fish and Shellfish Consumption Advisories

**Lobster Tomalley:** *Pregnant women, nursing mothers, and women who may become pregnant should NOT EAT tomalley (the green substance found in the body of the lobster). All others should limit consumption of lobster tomalley to 1 meal per month. A tomalley meal is eating the tomalley from one lobster.*

**Striped Bass:** *Pregnant women, nursing mothers, women who may become pregnant, and children less than 8 years old, are advised to limit consumption of striped bass to 1 meal per month. All others should limit consumption to 2 to 3 meals per month, with the lower limit applying to those consuming large striped bass*

**Bluefish:** Consumption of bluefish should be limited to one fish meal per month.



# A VISION FOR MAINE'S PAPERMILL

- Eliminating Papermill Dioxin
- Modernizing Bleached-Kraft Mills
- Restoring Maine's Major Rivers

A PUBLICATION OF THE NATURAL RESOURCES COUNCIL OF MAINE

Imagine this future for Maine: Our paper mills are modernized, globally competitive, and national leaders in environmental performance. Polluted water dumped into our rivers by Maine's seven bleached kraft paper mills has been reduced by nearly 90 percent. The job of cleaning up our rivers from kraft papermill pollution is finished and we no longer face health risks from toxic pollutants generated by these paper mills.

This future can become a reality through investments by the paper companies in technologies that eliminate dioxins and also greatly reduce other wastewater pollution during the papermaking process. Through such investments, Maine's paper companies will continue to produce some of the best paper products in the world and will take a leadership position in the production of dioxin-free paper. As a result, Maine will continue to benefit from the employment and economic opportunities created by the paper companies and human health will not suffer from the pollution caused by these mills.

## PAPER MILLS PRODUCE JOBS AND POLLUTION


Maine has seven bleached kraft paper mills which are important contributors to Maine's economy. But they also are a major source of water pollution that affects not only the rivers into which they discharge their waste, but also the estuaries and coastal waters at the mouths of those rivers.

Collectively, these seven mills pour into Maine's rivers over 40 million gallons of polluted bleaching wastewater every day. This polluted water is a toxic "soup" of dioxins and other toxic chemicals as well as color, odor, foam and oxygen depleting material. Pollution from Maine's bleached kraft mills contaminates fish and shellfish, and the people and wildlife that consume them. Further, this enormous load of pollutants affects the ability of Maine people to fully use and enjoy these rivers every day.

Dioxin-related fish consumption warnings now apply to almost 250 miles of rivers, and similar warnings for lobster tomalley affect all of Maine's coastal waters. These advisories recommend that women of childbearing age eat NO lobster tomalley from these waters and the general public severely restrict their tomalley consumption. Furthermore, the Maine Bureau of Health recommends that all Mainers severely restrict their consumption of fish from these waters and eat no freshwater fish from the Kennebec below Augusta due to dioxin-related contamination.


The primary source of papermill water pollution is the pulping and bleaching process — during which wood or other fiber is turned first into pulp and then whitened. The toxic family of chemicals called

*Continued on next page.*



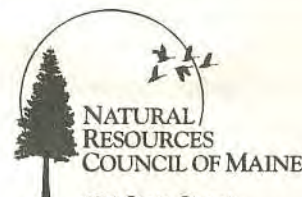
*"Dioxin is one of the most toxic chemicals known in our environment. It's time to do away with dioxin everywhere we can — and Maine kraft papermills, which cause the largest dioxin impact on our rivers, are the best place to start."*

*Dr. Beverly Paigen, Senior Scientist at Jackson Laboratories — major scientific contributor to the book Dying From Dioxin*



**Above** — Louisiana Pacific's Samoa, California, mill makes totally chlorine-free (TCF) pulp without producing dioxin.

**Right** — This Maine mill, like all other bleach kraft paper mills in the state, continues to pollute our rivers and coastal waters with dioxin.



NATURAL  
RESOURCES  
COUNCIL OF MAINE

271 State Street,  
Augusta, Maine 04330  
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Continued from previous page.

...ins are produced in the bleaching process when mills use chloro-...-compounds.

### DIOXIN CONTAMINATION THREATENS PEOPLE AND WILDLIFE

The term "dioxin" describes a group of highly toxic chemicals which are produced by several industrial processes — including kraft paper mills — that use or burn products containing chlorine. Although often referred to in the singular, the term "dioxin" in this publication refers to 17 different highly toxic dioxins and furans discharged by the mills.

Dioxin is one of the most dangerous toxic chemicals known and has been found to cause cancer in all species of experimental animals that have been exposed to it. Recently the International Agency for Research on Cancer, a leading international health research institute, announced that a panel of 25 scientists from 11 countries had revised its classification of 2, 3, 7, 8, TCDD, the most toxic dioxin, from a "Group 2B" possible human carcinogen to a "Group 1" human carcinogen — a recognition that the risk of cancer from this dioxin may be even greater than previously thought.

Dioxin is also associated with several serious non-cancer health effects. Scientists believe that dioxin can disrupt hormonal, reproductive and immune systems in people and that the general public carries "background" body burdens of dioxin at levels where both significant cancer and non-cancer effects may occur.

Certain people are at an even higher risk. The developing fetus and nursing infant have a greater risk because dioxins are passed to them in utero and through their mother's breastmilk at the most sensitive stages of their development. Certain populations that consume large amounts of fish, such as recreational and subsistence fish consumers and Native Americans, are at an increased risk due to their higher consumption of fish contaminated with dioxin. Humans, however, are not the only species affected. For example, the U.S. Fish and Wildlife Service has linked dioxin discharges from a kraft mill in Maine to reproductive failure in bald eagles.

### HUMAN HEALTH HAZARDS LINKED TO DIOXINS

- Cancer
- Birth and Developmental Effects
- Learning Disabilities
- Increased Risk of Diabetes
- Tumor Promotion
- Decreased Fertility
- Reduced Sperm Counts
- Endometriosis
- Suppressed Immune Systems

### CLEAN ENVIRONMENT AND JOBS: WE CAN HAVE BOTH

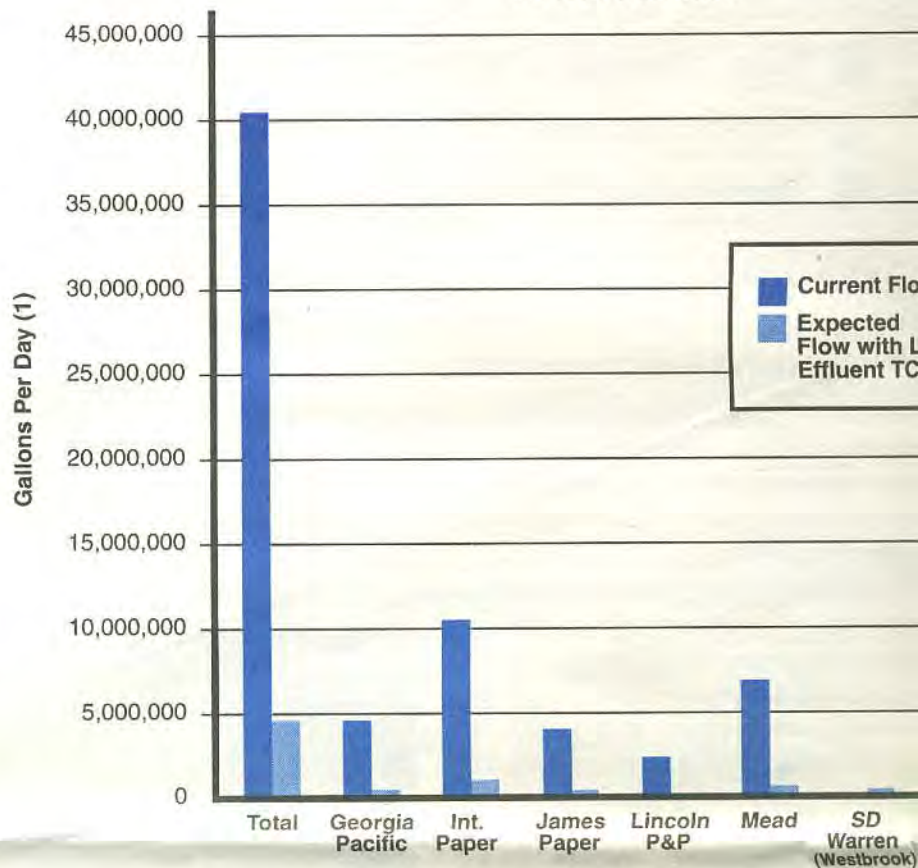
Some say that a choice must be made between jobs and the environment, but this is a false choice. Maine can and should have both. Dozens of paper mills around the world have demonstrated that good jobs and a clean environment can go hand-in-hand.

Modern pulping and bleaching technologies are currently being used in the United States, Europe and around the world that not only eliminate the production of cancer-causing dioxins by the mills during

## Conversion of Maine's Bleached Kraft Mills to TCF Would Reduce Bleach Plant Wastewater Pollution by Almost 90 Percent



### Average Daily Bleach Plant Flow Maine Kraft Mills



(1) SOURCE: USEPA, REGION 1, 1997. PERSONAL COMMUNICATION, MARCH. NOTE: GRAPH IS BASED ON 88% REDUCTION IN BLEACH PLANT EFFLUENT ACHIEVED BY LOUISIANA PACIFIC, SAMOA, CA MILL CONVERSION TO TCF.

seven bleached kraft paper mills, the amount of polluted bleaching wastewater discharged into our rivers every day could drop from over 40 million gallons daily to less than 5 million gallons.

The table above describes the enormous benefits that could be achieved in Maine through low-effluent TCF technologies. Dioxin discharges and other chlorinated organic by-products would be eliminated and the amount of other toxics, color, odor, and foam could be reduced by nearly 90 percent from current levels.

This would be an enormous step forward for our environment — bringing us close to the ideal for environmental technologies, which are "closed loop" systems. A closed loop system is the ultimate goal, in which Maine's bleached kraft paper mills would produce the lowest environmental impact possible because they would discharge essentially no polluted wastewater into our rivers. Rather, the water used in the bleaching process would be recovered and recycled internally.

### CURRENT STATUS OF THE MILLS

Maine's bleached kraft mills at the present time are not on the list of TCF mills. But other mills in the region are planning

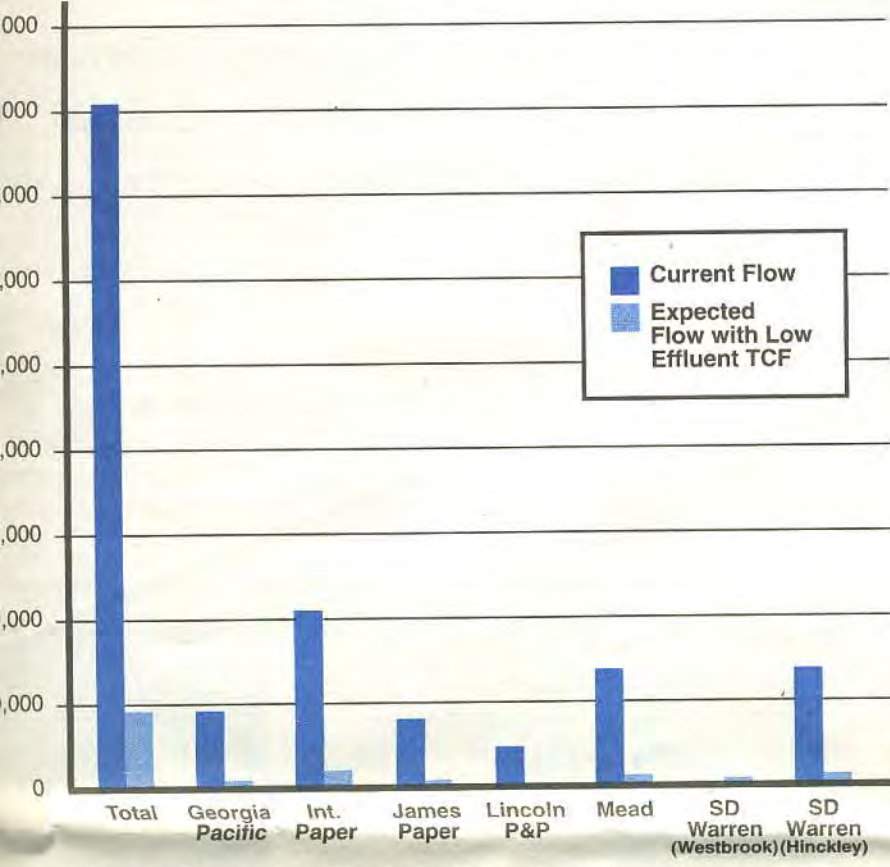




# Conversion of Maine's Bleached Kraft Mills to TCF Would Reduce Bleach Plant Wastewater Pollution by Almost 90 Percent



Average Daily Bleach Plant Flow  
Maine Kraft Mills



(1) SOURCE: USEPA, REGION 1, 1997, PERSONAL COMMUNICATION MARCH. NOTE: GRAPH IS BASED ON 88% REDUCTION IN BLEACH PLANT EFFLUENT ACHIEVED BY LOUISIANA PACIFIC, SAMOA, CA. MILL CONVERSION TO TCF.



Dioxin-polluted rivers... pleasure of catching

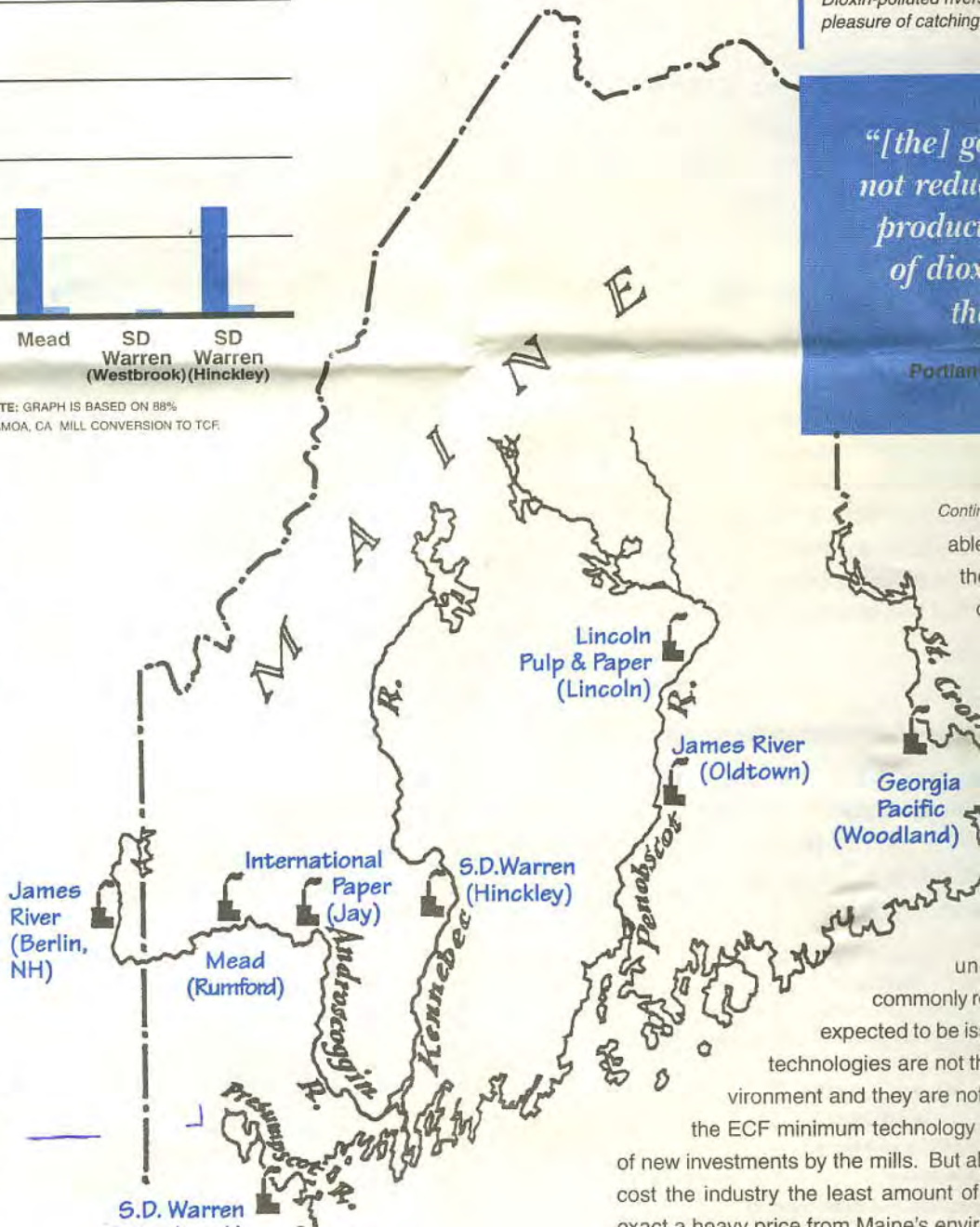
"[the] government not reduce production of dioxin through the Portland area"

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## STATUS OF THE MILLS

bleached kraft mills at the present time are not on the echnologies. Rather, they currently use or are planning ear future systems called elemental chlorine-free (ECF). at that during the bleaching process they stop using el- rine — one of the primary chemical culprits in the forma-



un commonly r expected to be is technologies are not th vironment and they are not the ECF minimum technology of new investments by the mills. But al cost the industry the least amount of exact a heavy price from Maine's en





Dioxin-polluted rivers take away the simple childhood pleasure of catching and eating a fish.

*"[the] goal is to eliminate dioxin, not reduce it... chlorine-free paper products, involving no injection of dioxin into Maine rivers, is the ultimate answer."*

Portland Press Herald, December 18, 1996

Currently there is a debate about dioxin in our rivers. Dioxin is produced as a byproduct of chlorine bleaching by 7 paper mills in the state. Which statement comes closer to your view:

"A coalition of conservation and citizen organizations say that since dioxin is such a dangerous cancer-causing pollutant, it must be eliminated from Maine's paper mills — in the same fashion that lead was eliminated from gasoline. They say many mills around the world don't use chlorine to make paper white, and thus don't produce any dioxin. They say the environmental and health benefits of the dioxin-free technologies outweigh the expense to paper mills."

"The paper companies say they have already reduced dioxin by large amounts and are committed to reducing dioxin further to a level at which it cannot be measured. They say installing new technologies that don't use any form of chlorine to make paper white would cost tens of millions of dollars and thousands of jobs, for no real environmental or health benefits."

Worth the expense

56%

Costs too much

18%

Both

9%

Neither

5%

Don't know

12%

SOURCE: MARCH, 1997, POLL OF MAINE VOTERS CONDUCTED BY BI-PARTISAN POLLING TEAM: S. OSIN, S. SNELL & ASSOCIATES AND DEARDORFF/THE MEDIA COMPANY.

### Cost Comparisons of ECF and Low Effluent TCF in Maine.<sup>(1)</sup>

TECHNOLOGY OPTION	CAPITAL COSTS (\$/ADMT)	INCREMENTAL OPERATING COSTS (\$/ADMT)	TOTAL COSTS (\$/ADMT)	TOTAL COSTS (Cents/ream of paper)
<b>Lincoln Pulp &amp; Paper: Lincoln, ME</b>				
ECF	\$10.50	\$17.80	\$28.30	2.0
Low-effluent TCF	\$23.80	\$12.60	\$36.40	2.6
<b>S.D. Warren: Westbrook, ME</b>				
ECF	\$10.80	\$11.70	\$22.50	1.6
Low-effluent TCF	\$32.10	\$8.10	\$40.20	2.9
<b>James River: Oldtown, ME</b>				
ECF	\$5.90	\$6.80	\$12.70	0.9
Low-effluent TCF	\$20.60	\$5.70	\$26.30	1.9
<b>Georgia-Pacific: Woodland, ME</b>				
ECF	\$0.00	\$0.00	\$0.00	0.0
Low-effluent TCF	\$13.00	(\$1.50)	\$11.50	0.8
<b>Mead: Rumford, ME</b>				
ECF	\$8.10	\$11.50	\$19.60	1.4
Low-effluent TCF	\$21.50	\$6.50	\$28.00	2.0
<b>S.D. Warren: Hinckley ME</b>				
ECF	\$7.90	\$15.50	\$23.40	1.7
Low-effluent TCF	\$19.90	\$6.00	\$25.90	1.8
<b>International Paper: Jay, ME</b>				
Traditional ECF	\$0.00	\$0.00	\$0.00	0.0
Low-effluent TCF	\$16.60	(\$4.50)	\$12.10	0.9

[1] Annualized total costs per air dried metric ton (ADMT) of pulp to install traditional ECF vs. low-effluent TCF bleaching processes including both capital and incremental operating costs

Continued from previous page.

able to react with chemicals from the wood to form dioxins and other chlorinated organic compounds.

Traditional ECF technologies are the minimum that the Environmental Protection Agency (EPA) is expected to suggest as necessary for bleached kraft mills to meet effluent limitations

under proposed regulations, commonly referred to as the "cluster rules," expected to be issued in 1997. Traditional ECF

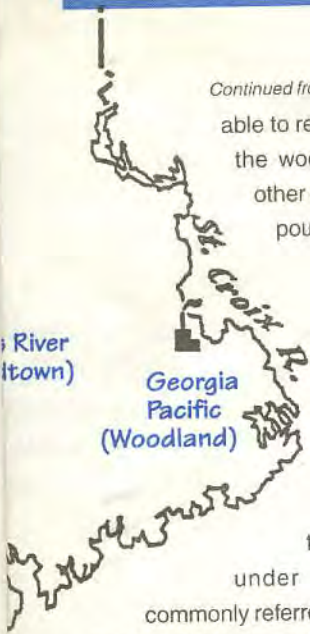
technologies are not the best technology for the environment and they are not dioxin-free. Not surprisingly, ECF minimum technology will require the least in terms of investments by the mills. But although ECF technologies will cost the least amount of money, they will continue to add to the price from Maine's environment.

The path for the 21st century for Maine is for the State's bleached kraft mills to convert to technologies that will eliminate dioxin and allow them to recycle their bleaching wastewater and eliminate the use of non-chlorine bleaching. Investments in Maine mills

Continued on next page.

River (town)

Georgia Pacific (Woodland)







Chlorine-free paper will make  
you look good!

NRCM thanks the following foundations for support of our public education program to rid Maine waters of dioxin and other toxics:

- Beldon Fund
- Clarence and Anne Dillon Dunwalke Trust
- Marpat Foundation
- John Merck Fund
- James C. Penney Foundation
- The Pew Charitable Trusts
- Rockefeller Family Fund
- Sasco Foundation

*Independent. Non-profit. Effective.*

NRCM is dedicated to protecting Maine's air, water, land and wildlife through advocacy, education and legal defense. Join us. We need your help to continue our work. For membership information, please call 1 (800) 287-2345. Contributions to NRCM are tax-deductible.

**PAPER** — *Cover:* Gleneagle Osprey GEO manufactured by UK Paper *Inside paper:* New Life Opaque donated by Rolland Paper

*Both papers are produced by a chlorine-free process using 50% recycled paper and 50% totally chlorine-free pulp.*

Cover illustration and Map:  
Jon Luoma  
Graphic Design: Jill Boek  
Writer: Sarah Scott



271 State Street, Augusta, ME 04330-6900  
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# CHLORINE-FREE PAPER

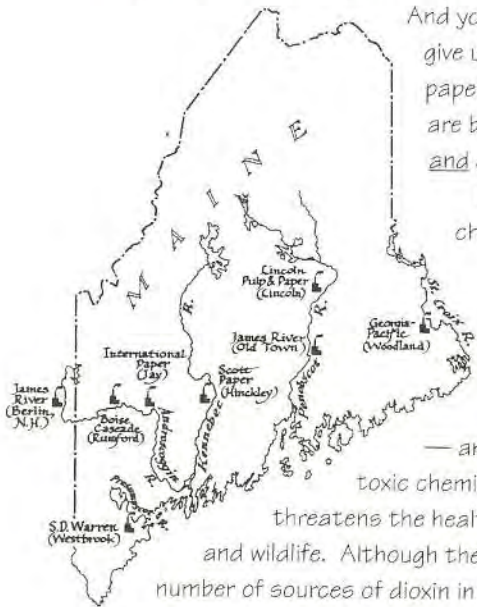
The Best Buy  
for the  
Environment





## CHLORINE-FREE PAPER — The Best Buy for the Environment

Next time you shop, ask for paper that is *chlorine-free*. Buying *chlorine-free* paper means cleaner water, and healthier people and wildlife.



And you don't have to give up recycled paper. Many papers are both recycled and *chlorine-free*.

In Maine, chlorine bleaching by "bleach kraft" paper mills (see map)

creates dioxin

— an extremely toxic chemical that

threatens the health of people and wildlife. Although there are a

number of sources of dioxin in the environment, these paper mills are the major source

of dioxin pollution in Maine's waters.

Buying *chlorine-free* paper will help create a market demand that will encourage Maine mills to switch to dioxin-free technologies. By so doing, Maine can reclaim the value of its rivers and coastal waters, and ensure our health and that of future generations.

**"We predict that in time, the label 'Chlorine-Free' will be as common, and as highly desired, as '100% Recycled' is today."**

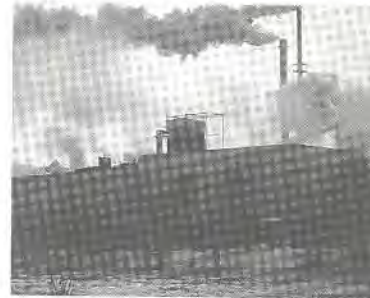
—Portland Press Herald, April 1996

**So join with other Maine citizens and businesses and be part of the solution to the dioxin problem by purchasing *chlorine-free* paper — the best buy for the environment!**

Printed on UK Paper, Gleneagle Osprey GEO  
— chlorine-free process

## MAINE'S DIOXIN SOLUTION — CHLORINE-FREE PAPERMAKING

Dioxin discharges from chlorine-bleaching paper mills are a serious problem in Maine. The good news is that this dioxin can be eliminated! Over 60 Kraft mills throughout the



This mill, like all other bleach kraft papermills in Maine, continues to pollute our rivers and coastal waters with dioxin.

world now make pulp or paper without using any chlorine compounds and without producing any dioxin.

Many *chlorine-free* mills, including

Louisiana-Pacific's California mill, are also moving to a "**closed-loop**" process — recycling all of their bleaching wastewater, eliminating their polluting discharges into rivers or coastal waters, and increasing their efficiency and competitiveness. Imagine what a resource Maine's papermaking rivers would be if the discharge of millions of gallons of wastewater could be eliminated.

Through a *chlorine-free* process, paper companies can produce high quality, cost competitive, white paper products. This brochure, for example, is printed entirely on paper manufactured using a *chlorine-free* process. Maine mills can do this too!

**"We know where most of the dioxin comes from and we know how to get rid of it: Stop making paper with chlorine bleach and its compounds."**

—Maine Times, February 1994

Printed on Rolland, New Life Opaque  
— chlorine-free process



## DIOXIN IS A THREAT TO HUMAN HEALTH AND WILDLIFE

- Dioxin is one of the most potent man-made carcinogens in our environment, placing

**“Residents should know that the dioxin threat exists, not just in the country’s heartland but here, in the State of Maine.”**

—*Journal Tribune, September 1994*

it on a par with other well-known carcinogens such as DDT and PCBs.

- Dioxin mimics the actions of hormones in humans and wildlife and disrupts reproductive, developmental, and immune systems. Dioxin is particularly harmful to nursing infants and unborn children.

- Dioxin is already in all of our bodies, at or near levels where these health effects

may occur. Additional exposures to dioxin, for example, from eating contaminated fish, increase the hazard.

- The scientific evidence suggests that there is no safe level for dioxin exposure. Like other

pervasive toxic substances which have been banned — such as DDT, PCBs — the only certain safe level is **ZERO**.

**“It is time...to get chlorine out of the paper manufacturing process and the dioxin out of Maine’s rivers.”**

—*Portland Press Herald, January 1996*

Let’s leave a dioxin-free legacy for future generations.



## DIOXIN POLLUTES MAINE’S RIVERS AND COASTAL WATERS

- All of Maine’s bleach kraft mills discharge dioxin in their wastewater. Because dioxin levels increase dramatically at

each step in the food chain, even trace, or undetectable, amounts of dioxin in wastewater can threaten humans and wildlife.

- For over 10 years, Maine health officials have warned women of childbearing age to eat

**no fish** and the general public to strictly limit their consumption

of fish

caught

in almost 250 miles of our rivers due to dioxin contamination. Since 1994, state health officials have issued similar warnings about consumption of lobster



Clean water is more than a pretty picture — our waters should be dioxin-free.

tomalley from lobsters caught along the entire Maine coast.

- Dioxin pollution in paper-making rivers has a major impact on recreational and subsistence anglers; including Native Americans who have fishing rights and who have traditionally relied on river fish as part of their diet and cultural heritage.

- Dioxin pollution can also have a major impact on fish-eating wildlife, such as Bald eagles, whose diet may consist primarily of contaminated fish. Warning signs don’t protect wildlife.

**“You would make my life a lot easier if you could figure out a way to get rid of the dioxin and the chlorine.”**

—*Governor Angus King to paper industry officials, September 1995*

**“The buying public changed the automobile industry, and, by choosing its paper marked “chlorine-free,” will change the paper industry as well.”**

—*Bangor Daily News, November 1993*



## YOU CAN BE PART OF THE SOLUTION

### Buy Chlorine-Free Paper Products

• **In the Home** We all use paper products in the home — toilet tissue, stationery, and in

some cases paper towels, napkins, and coffee filters. When you are shopping for these items, purchase chlorine-free products. If they are not readily available, urge your local stores to carry them. Buying chlorine-free paper is the next step for an environmentally conscious household. Spread the word to your friends and neighbors.

• **In the Office** Chlorine-free paper for printers, photocopiers, letterhead, and publications is available (see enclosed product guide). Be an advocate in your work place

to make the change to chlorine-free. One person can make a world of difference!

**“Chlorine-free paper is at a par with other high quality papers in brightness, opacity and other characteristics, and it is better for the environment. We have no more excuses for not using chlorine-free paper.”**

—Jane Karker,  
Western Maine  
Graphics



There are lots of choices. Check the list enclosed and buy chlorine-free.

### Get Involved

- Contact NRCM to find out how you can get involved with the growing movement for a dioxin-free paper industry in Maine. We will keep you up-to-date on the latest opportunities for action. 1-800-287-2345.
- Write to Governor King and your legislators and urge them to support efforts to eliminate the paper industry's dioxin discharges.
- Write a letter to the editor of your local paper, and urge your friends to do so. Let your community know about the dioxin issue and tell them they can be part of the solution too.

**“As the largest consumer of chlorine-free (recycled) paper in the state, we are proud of our commitment to the environment and the citizens of Maine.”**

—Barbara Patterson,  
District Manager, U.S.  
Postal Service

*Maine people care deeply about clean water and a healthy environment. Let's clean up our magnificent rivers and coastal waters — for wildlife, for us, and for future generations.*

