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## **A New Year's Message from the Director**

**Got Passion?** We have lots of people at WFRC who are passionate about fish (well...okay, some of you are passionate about fish pathogens, or maybe watery environments in general).

Me too. It started when Dad gave me a steel fishing pole (yes, you read right) with a small direct drive casting reel when I was six years old. If you are an angler, you know what I mean when I say this was not a finesse rig. Anyway, my brother, Mom, Dad and I had just moved from Iowa to Colorado, and we took to the mountains—a place called Lefthand Canyon—to try our luck in a trout stream. I lacked confidence, and really did not believe that I could catch a fish. But using a hook and worm cast to a small pool with guidance from Dad, I surprised myself.

It was a small stocker, maybe 7 inches of fighting hatchery rainbow, but it was enough to set my course toward biology. Later I discovered I could catch yellow bullheads closer to home. The first time I caught one I was so excited I forgot to reel it in. I just started running at top speed away from the reservoir and up a hill. About 100 feet behind me the very surprised bullhead rocketed onto the bank at about 20 miles per hour.

I fed my fish passion over the years, and decided to be a biologist when I was in eighth grade. I loved every biology class I ever took, and ended up learning science working mainly with birds and mammals—nearly as inspiring as fish. However, I came back to the water with my first job as an aquatic ecologist, and it's been water and fish ever since.

Here, my story converges with yours—the point being that it's a privilege working side by side with passionate people. In this organization, not everyone is passionate about fish, but nearly everyone is passionate about what they do. That passion is evident in the excellence of our science and the high quality of the support that helps make that science possible. Our work is not without problems, and the passionate responses I see in response to challenge—even organizational challenges like changing business practices—is miles ahead of apathy. Passion will power us through, even if we scrape off a little hide in the process. Here's to a passionate 2003!

Happy New Year,

---Frank

## Spotlight On the CRRL

by Jim Seelye

The WFRC Columbia River Research Laboratory (CRRL) was established in 1978 when the FWS reorganized the Reservoir Research Program and transferred two of their biologists, Bill Nelson and Lance Beckman, to the WFRC staff (then, the FWS National Fisheries Research Center). Bill and Lance established a field office in Vancouver Washington and were very successful in getting BPA funding to work on Columbia River problems. Their staff grew rapidly and they eventually moved to the former FWS Western Fish Nutrition Laboratory at Cook, Washington in the Columbia River Gorge east of Portland, Oregon. The research program there continued to grow and today includes about 180 employees during the field season. During the winter months, it includes about 120 capable professional biologists and administrative staff. With a budget for salaries of over \$4.5 million, it is one of the largest employers in Skamania County, Washington and one of the largest BRD units in the Western Region. Our employee average age is about 30. Many are young professionals trying to establish a career in science, some are well established scientists, and some are just trying to survive.

**Issues:** The Columbia River Basin contains the largest cold-water river system in the lower 48 states. Historically, this system was one of the largest salmon producers in the world. Currently, hydropower, industry, forestry, agriculture, and shipping interests have changed vast portions of the Basin causing dramatic declines in salmon production. This is where the CRRL comes into the picture. Our lab conducts research projects designed to provide sound technical information to resource managers ranging from the Federal and State governments to Native American tribal organizations. This information is used to set policy and develop management strategies to balance the many demands on this important river system. The CRRL conducts more than \$10 million in fishery research each year, primarily to address specific problems identified by the Department of Defense and the Department of Energy. Research for Department of the Interior bureaus represents about 10 percent of the program. Overall, about 95% of

the research is funded by agencies other than the USGS. Our research program is concentrated on salmon, sturgeon, and lampreys however we strive to take a whole system, habitat approach where appropriate. The majority of our work has focused on improving survival and condition of downstream migrating salmonids. We do extensive research on fish passage issues at dams. In addition, this lab is a leader in determining losses of juvenile salmon to predatory fishes in the Columbia River basin. We have studied effects of gas supersaturation in water passing through hydropower facilities on salmon and other fishes. We are also involved in assessment of white sturgeon in the basin. Our biologists have conducted long term assessments of the condition of juvenile salmon from hatcheries and wild stocks. We are also part of an active program designed to restore populations of Pacific lampreys in the basin. Highlights of the research program include:

- Fish passage studies at hydropower facilities using sophisticated juvenile fish tracking techniques to estimate survival under various flows and facility designs
- Research on the habitat requirements of Chinook salmon, with emphasis on the Northwest's largest self-sustaining population in the Hanford Reach
- Identification of habitat requirements and basic life history of white sturgeons and Pacific lampreys, two important native species affected by human river use
- Studies evaluating the performance of wild salmon relative to salmon produced in hatcheries, to improve management of hatcheries for wild salmon restoration
- Application of computer assisted information transfer techniques including geospatial information systems, decision support systems, and mathematical modeling.

Many of our studies are done collaboratively with one or more federal agencies, states, tribes, universities, or consulting firms. Our crews work on the river in a large fleet of boats equipped with the latest in electronic equipment such as geographic positioning systems, side scan sonar, water current profilers, radio and acoustic tracking systems, an

acoustic camera, and hydro acoustic fishery assessment instruments. We are one of the world's largest users of radio and acoustic tagging techniques for the examination of the behavior and survival of fish. Our GIS team has thoroughly up to date equipment and personnel that are capable of applying the latest data reduction and interpretation techniques. We analyze research results and design data presentations that make large complex data sets more understandable and useful to resource managers. Our facilities include laboratories for investigating fish behavior and performance as well as developmental, immunological, and reproductive physiology of salmon, sturgeons, and lampreys. Our scientists have produced over 300 scientific publications, more than 1000 technical reports, and they have attended thousands of meetings to make sure the information we produce gets into the hands of the resource managers who need it.

This little field station, started by two transplanted scientists from Yankton, South Dakota has developed into a major producer of information for resource managers working on large regulated rivers. Thanks, Bill and Lance!

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## **FARrrrr Out. CRRL Biologist Travels To FAR-Flung Places**

Hello, I'm Robin Schrock, a Fishery Research Biologist at the Columbia River Research Laboratory. I have been with the USGS nee NBS nee USFWS since 1987. I began at the WFRC Marrowstone Marine Field Station, and transferred to CRRL in 1991. This is a second career for me, following a well-traveled career as a medical technologist beginning with a scholarship for my senior year of college in Switzerland. I loved it there and returned two years later to study medical technology at Engeried, in Bern, ending with a specialization in histology at the University of Bern, Institute of Pathology.

I returned to the United States upon graduation and worked in California at a medical clinic that served a former president. In addition to performing analyses on his blood under the watchful eye of frowning gentlemen with sunglasses and crossed arms, I got to see him (and his wife too) in their underwear on a frequent basis. This is nothing compared to Aldo Palmisano having been at Woodstock, but it is a fun fact just the same.

Tiring of taking care of pampered people, I served two years in Zambia as a medical volunteer, running a hospital laboratory, and seeing far more intestinal parasites than anyone is meant to. The war in Rhodesia made the realities of the third world that much harder, and I returned home believing that clean water and enough food can solve almost all problems.

I returned to school at 30, planning to study limnology but somehow, the fickle finger of fate landed me in the Wisconsin Cooperative Fisheries Research Unit doing fish genetics, and eventually at Marrowstone. Currently I am a PI at CRRL on three studies, two in fisheries and one in water quality. My special areas of interest are how different water sources affect early development in fish related to long-term survival, and ground water under the direct influence of surface water (GWUDISW for short).

Fate has once more pointed a finger at me, and a casual inquiry about interdisciplinary, cross-divisional training opportunities with WRD has landed me in Reston for a two-month detail in the FAR (Fisheries and Aquatic Resources) Program Office. In terms of duties, the detail will involve:

- Being a member of the FAR staff to provide technical expertise, advice and scientific input for policy and programmatic issues to BRD management
- Representing USGS and BRD on inter-organizational working groups
- Generating responses for Congressional requests for effects and capability statements and other questions
- Representing FAR Program in BRD, USGS, DOI and interagency meetings
- Providing HQ-BRD with current insight of what the field scientists encounter on a day-to-day basis.

I will be learning about the fisheries and aquatic resources program first hand, and assisting Jim Preacher, the FAR program coordinator.

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## Thanksgiving at the South Pole

Rusty Rodriguez and Regina Redman have arrived safely at the Antarctic international research station on McMurdo Sound. After passing the required survival training course in which they had to build an igloo (planned) and sit out a blizzard (unplanned), they are now busily conducting ecological studies at the dry valley research sites. In south pole lingo, dry valleys are valleys with no permanent ice cover (glaciers). A traditional Thanksgiving day dinner was served.

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## Outreach in Action

by Lisa Wetzel

I recently had the opportunity to be a special guest at Sunnyside Montessori (my son's preschool) to tell them about my job as a fishery biologist. They have been studying salmon this fall and went on a field trip to the Issaquah Fish Hatchery. Some of the kids actually witnessed some natural spawning in Issaquah Creek. They did not see the hatchery spawning (a.k.a. massacre), but did get to feed some of the juveniles (a.k.a. feeding frenzy). I introduced the basics of the scientific method (i.e. asking questions, observing things). They saw pictures of our work in streams and in hatcheries. I brought in some tools of the trade and told them how they are used. I showed them examples of tags, nets, otoliths and scales and we measured the "wetted-width" of the classroom. They were very interested and actually knew quite a bit about salmon from their "studies". Who knows, one of them might be a budding fishery biologist. I was very interested in fish when I was their age... and here I am. Well, on most Mondays at least!

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## WFRC Research in Review

by Gael Kurath, Evi Emmenegger, Eric Anderson, and Garth Traxler

Severe epidemics of infectious hematopoietic necrosis (IHN) have occurred at numerous Atlantic salmon seapen sites in British Columbia during the years 1992-1997, and again recently in 2001-2002. Several IHNV isolates from these outbreaks were characterized using both RNase protection fingerprinting of the complete glycoprotein (G) and nucleoprotein (N) genes, and sequence analysis of a 303 nt region in the middle

of the G gene. This strain typing indicated that all five virus isolates from sites off the east coast of Vancouver Island in 2001-2002 were identical, and that they were closely related to a very common IHNV type that is widespread in Alaska, British Columbia, and Washington. A single isolate from a site off the west coast of Vancouver Island in 2002 differed from the east coast type, and neither of the recent IHNV types matched the virus from the 1992-1997 outbreaks. This indicated that the virus did not persist in the industry since 1997, but rather that there have been two independent introductions into seapens during the last year. In 1992-1997 and also in 2001-2002 there is evidence of an initial introduction into a seapen, followed by farm-to-farm spread of identical or nearly identical virus types. All of the IHNV isolates from seapen Atlantic salmon were very similar to virus isolated in other locations throughout British Columbia over the last 25 years, with a maximum of 2% difference in nucleotide sequence. This suggests that the IHN outbreaks in Atlantic salmon seapens are caused by introductions of virus from local sources endemic to British Columbia.

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## Why Do They Call Us a "Cost Center?"

by Joyce Jones

For the last couple of years, people have been asking the question "what is a cost center?" Recently, I was asked again by one of our volunteers (I won't mention his name, but he has been at this Center for many, many years, and his initials are G.W. and he is the Editor of this Newsletter). So...we decided that this would be a good opportunity to provide a formal definition/description. However, if I were to define our Center informally, I would say that no matter what name you might give it, the Western Fisheries Research Center is a geographically diverse family of dedicated individuals working together as a team toward one mission – serving the best we can to carry out and support good science.

*Cost Centers are the organizational units at which indirect costs are collected and managed. Within the USGS, field centers and national centers function as cost centers. Field Centers are the teams, districts, research centers, and regional headquarters organizations that carry out USGS*

programs. Field Centers can consist of several organizational units. The heads of teams, districts, and centers report to Regional Executives, who represent the Regional Directors. Field Center managers are delegated the authority necessary to carry out their responsibilities.

National Centers are organizations that support USGS programs on a national scale, enhancing scientific excellence at all levels of the Bureau. National Centers can consist of several organizational units. National center managers report to the Associate Directors. National center managers are delegated the authority necessary to carry out their responsibilities.

Bureau centers provide broad management, oversight, program direction, and administrative support for the USGS. Bureau centers can consist of several organizational units. Bureau centers are not cost centers and do not collect or manage indirect costs. Bureau center managers are delegated the authority necessary to carry out their responsibilities.

The designation of cost centers given above can be found in the U.S. Geological Survey Manual, Chapter 320.1 – Cost Centers. Thus, the Western Fisheries Research Center (WFRC) can be referred to administratively as a Field Center or Cost Center. The WFRC consists of several organizational units (i.e., Seattle, Marrowstone, Reno, CRRL, Klamath, and Dixon) The WFRC Field Center Manager (a.k.a. Center Director), Dr. Frank Shipley reports to the Western Regional Executive, Dr. Anne Kinsinger.

## You'll Be Sorry!

by Kyle Sato

All of us have heard of the dangers of using cellular phones while driving. The USGS has recognized this distraction danger and has established policy for use. If you drive or ride in a Government Vehicle or personal vehicle used for Government purposes, this requirement applies to you: The Bureau Safety Manual Chapter 16 section 16.3 D (3) states: "Cellular phone usage in USGS vehicles shall be restricted as follows:

- (a) The driver of a USGS vehicle shall not use a cellular phone while the vehicle is in motion. A passenger in a USGS vehicle may use a cellular phone while the vehicle is in motion; however, phone conversations should be limited such that the driver is not distracted.
- (b) When driving alone, incoming calls can be directed to voice mail or pager for answering after the vehicle has been safely pulled to the side of the road.
- (c) State and local laws may be more stringent, as some localities have established regulations regarding cellular phone use in vehicles."

Happy Holidays and Safe Driving.

*(Editor's note: bottom line is that if you have a car accident while on official business, caused in part by using a cell phone, the government will probably not pay so you will have to.)*

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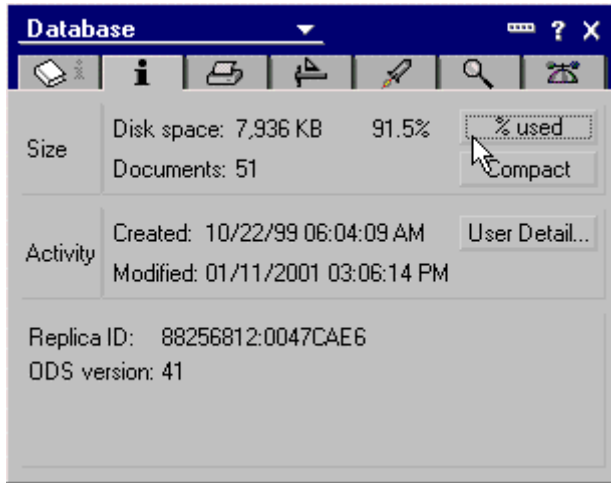
## Archiving Your E-Mail

by Robin Salling

By now you all have received notification concerning the reduction in allowable size for your Lotus Notes accounts on the server. To help you first determine the current size follow the simple steps described below. If you find you need to reduce the size of your account, read on and you'll be given instructions for archiving your database. If you have any question feel free to give me a call.

You can examine the size and percent used for your mail file by opening your mail file on the server, then clicking on File, Database, Properties, then on the second little "i".

Screen 24



Click on the "% used" button to display the percent of the database that is actually used by data. You'll notice the "Compact" button and may be tempted to use it. It won't do you any good as the process kicked off by this button is one which will not reduce the file size after it consolidates records. It's only the compact process that runs each weekend that will reduce the file size.

Now for archiving:

"Archiving" is a process a user of the Notes Client can do to decrease the size of their mail file on the server by moving messages to a database that is stored on a local disk - either physically on the Client system or an attached network drive. This local database is called an "archive" and it is integrated in to your mail database for easy access. Messages in the archive will behave just like messages in the mail database; that is, you can do reply, forward, delete, and file operations on them just like they were in the mail database.

The folder structure and message placement in folders is [maintained in the archive](#). Folders are created as needed by the archive process. A message that is saved in one or more folders is "placed" in the same folders in the archive.

## Steps for creating an archive

### 1. Archive Location

Decide on where the archive file will be located. The important criteria for placement of this file are:

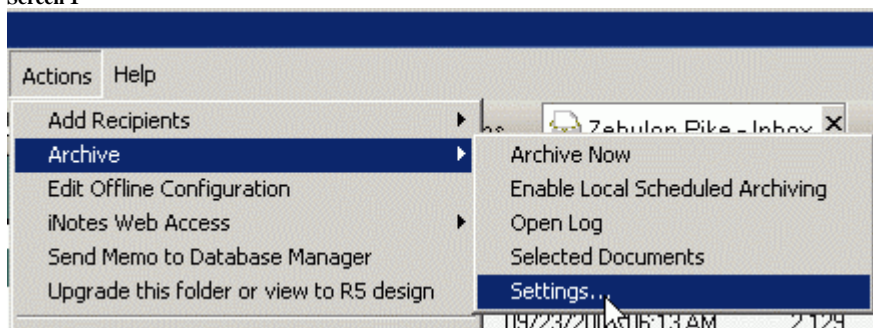
- A. There is space for the archive (and the [full-text index information if you will be creating that](#)). If you have more than 2 GB of free space, you probably don't need to worry. If less than that, you may need to be more careful.
- B. That files at this location are backed up. Some sites provide backup of selected partitions or backup a network drive attached to each desktop. Ask your local site administrator if you are not sure. You may have to backup this archive yourself - such as by burning it to a CD or putting it on zip disk(s). But the archive will be THE copy of your old/selected email, so it's important that it be backed up.

At the targeted location for your archive, you probably want to create a separate folder (directory) for your archive with a name of something like NotesArchive

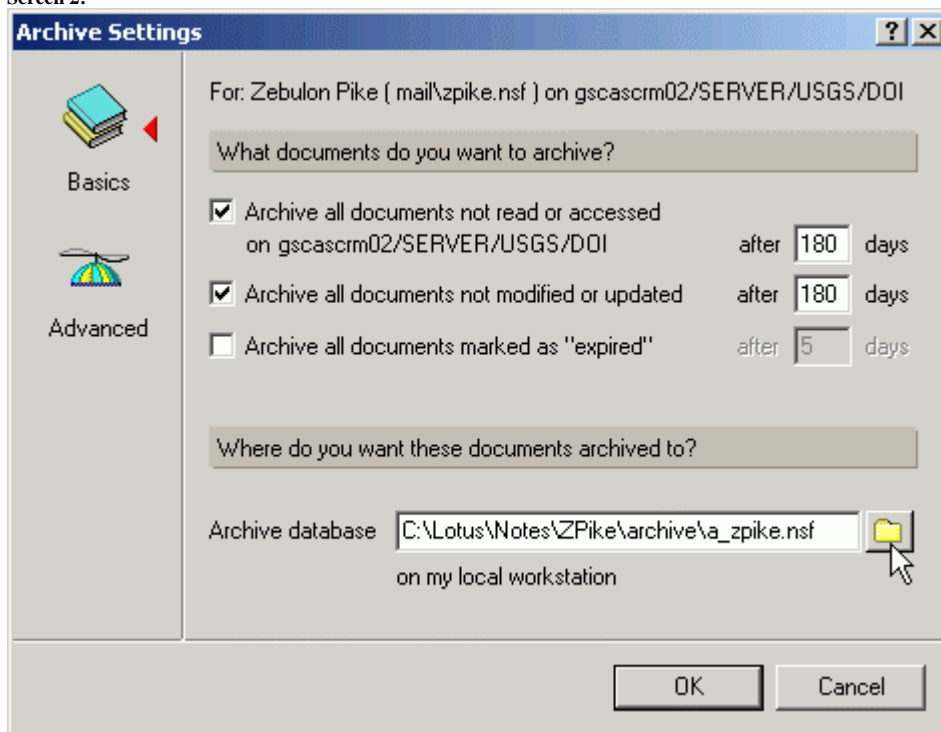
## 2. Configure Basic Archive Settings

With your mail file open to the Inbox, click on Actions, Archive, Archive Settings:

Screen 1



Screen 2:

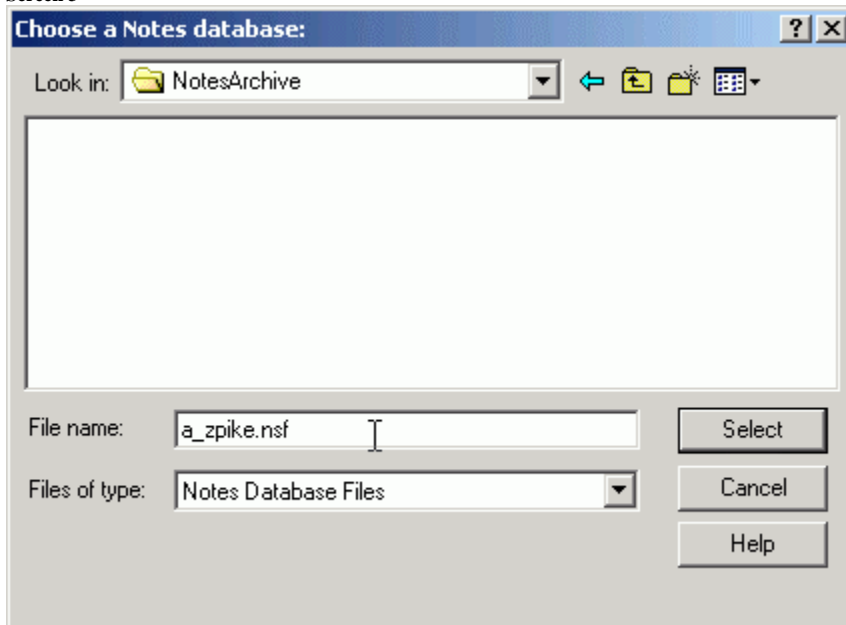


Turn on the top two check boxes and set the age in days for the messages to be archived.

## WFRC News

If your C:\Lotus\Notes\... directory is not backed up, note the name of the file suggested as the default, then click on the yellow folder to change the location for the archive, and set it as decided in step 1 above:

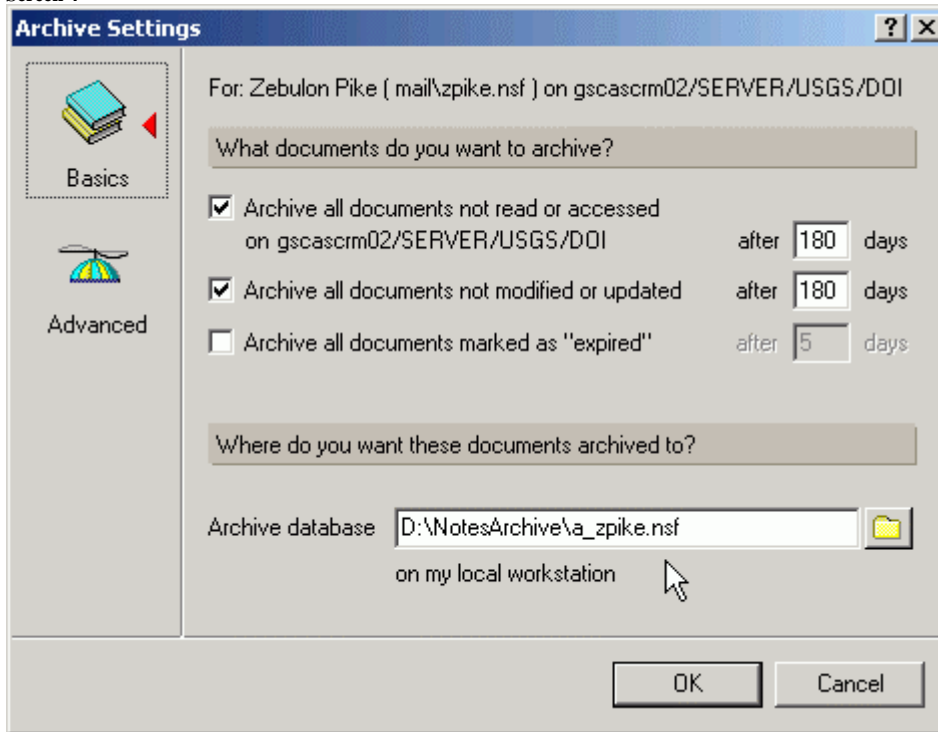
Screen 3



The file name convention for the archive is that it is the name of the mail file preceded by "a\_".

The Basics tab of the Archive Settings should now look something like the following, with the "Archive database" value set to your particular location:

Screen 4



The default values are fine for most people/circumstances.

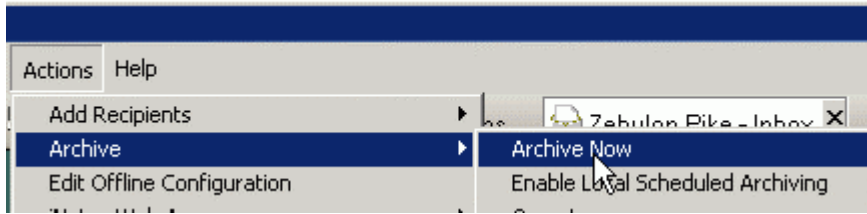
Click on OK when done with these settings.



3. Start the Archive Process

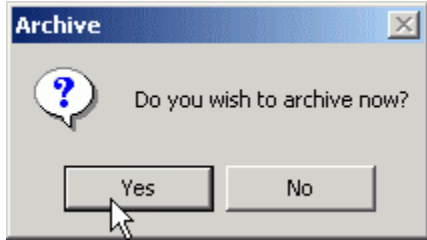
When the settings are complete, click on Actions, Archive, Archive Now:

Screen 5



and you'll get a confirmation popup:

Screen 6



An hourglass symbol will appear while the archive process is running and Notes will be tied-up until it finishes. When it finishes, the hourglass will vanish and any messages that met the age criteria should be gone from the source database. (If the source is a local replica, deletions will occur on the server at the next replication.)

4. Results, including possible messages not deleted

If the archive process goes to normal termination, all messages AND calendar entries that meet the age criteria will be in the archive and removed from the source database.

If messages were not deleted as you expected, you probably first want to make sure the messages were placed in the archive as shown in the next section.

It's important to have a general idea of how the archive process works so that you'll understand some of the results you might observe. The archive process first puts a copy of the targeted messages in to the archive and then goes back and does the deletion in the mail file. When operating on a large mail file on a busy server on a busy network, the archive process can sometimes fail (timeout?) without providing a clear indication that it didn't run to completion. If that happens, you could observe any of these symptoms:

- o not all of the targeted messages were placed in the archive
- o all of the messages are in the archive but none of the targeted messages were deleted from the server
- o or all of the messages are in the archive but some of the messages are deleted from the server and some are not.

**If you observe any of these symptoms, the simple and almost always effective solution is just to run the archive again with the same settings.** On really stubborn cases, it's been known to take two or three attempts to work correctly.

Another reason for some documents not to be deleted is that the [Advanced tab setting](#) for "Do

not delete documents that have responses" was checked. That setting is a personal choice: have a clean distinction that all messages older than some date are only in the Archive or have some confusion depending on if the message is involved in a response thread.

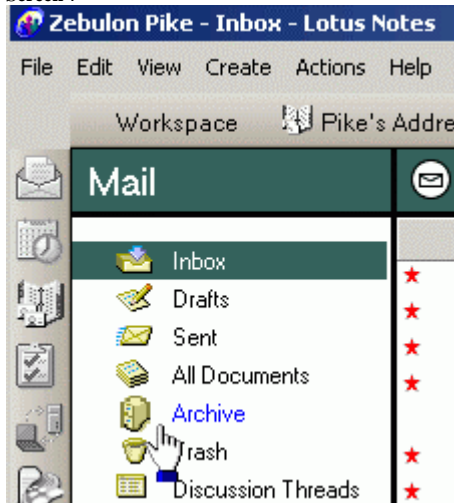
Also, keep in mind that this problem will get better or vanish as you get your mail file down to a smaller size. But in any case, the best action is to just rerun the archive with the same settings.

## Using the archive after initial creation

### 1. Open the Archive

Once the archive has been created, it can be easily opened by clicking on the Archive icon on the left side of the Client:

Screen 7

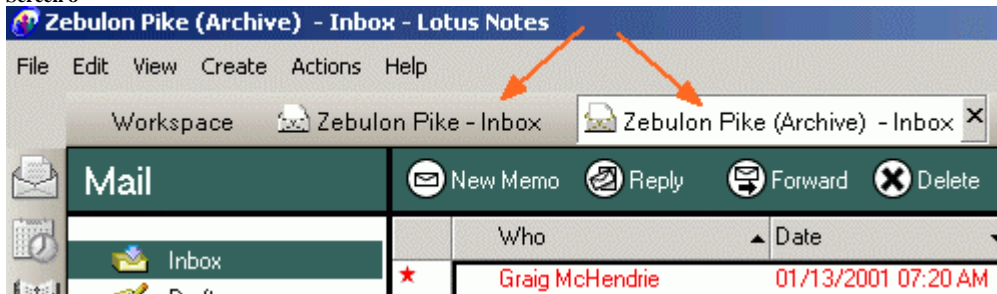


Once open, it will look much like your mail database, with many or all of the same folders. You can maneuver around inside this database just like your mail database, and do replies, forwards, deletes, file or refile messages, create new folders, etc.

### 2. Close the Archive

When done with the Archive, you can close it by clicking on File, Close or by clicking the X on the right end of its task on the task bar. Note how both your normal mail file and the Archive appear on the task bar when they are open at the same time.

Screen 8



## Archiving second and subsequent times

Once the archive is defined, you can continue to move additional files to it over time using, for example, Actions, Archive, Archive Now; the messages will all just accumulate in this one archive file. You may want to archive using the same age values but a few months after doing it the first time. You may find that the age criteria you set the first time did not remove enough records from your database on the server to have the desired impact, so you need to use a smaller number for the age values. Or you may want to select specific messages to archive. We'll show that here as it's a valuable technique to know ...

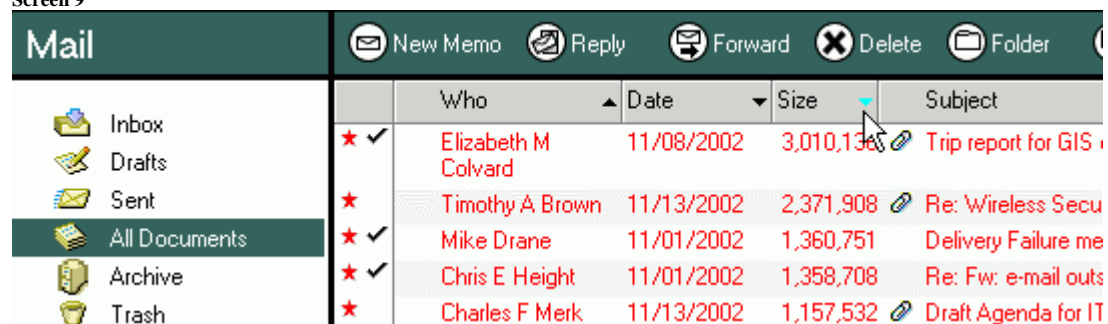
### 1. Check the Archive Settings

If it's been more than a day since you last archived, it's a good practice to check the archive settings before you start an archive process. Just repeat the steps above to make sure the settings haven't changed from what you expect. If you will be archiving selected documents, the age settings will be ignored.

#### Select the Messages

Set the folder or view with the documents you want to archive. A good approach is the All Document view after clicking on the Size column to sort it on that value. Or maybe all the messages in a folder for a completed project.

Screen 9

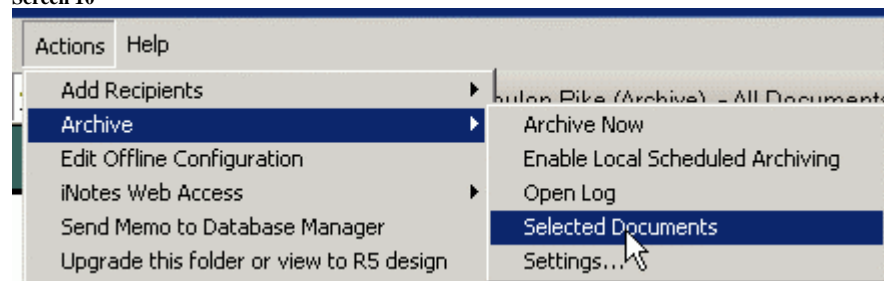


Click in the left border to set the check mark for those messages to be archived.

### 2. Start the Archive Process

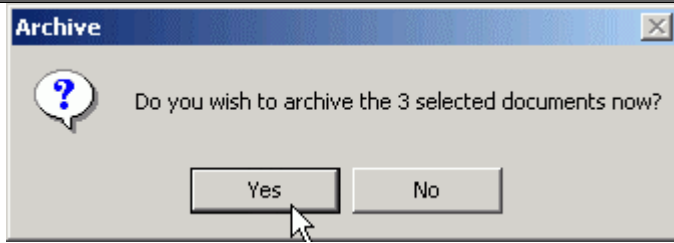
Click on Actions, Archive, Selected Documents:

Screen 10



A confirmation popup will soon appear:

Screen 11



Clicking on Yes will start the archiving. Again, the Client will be tied-up while the archiver is running.

In this version of the Client, you must operate on a single folder each time. You can't select documents in multiple folders then do a single archive.

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## Totally Awesome Web Sites

**[www.virology.net](http://www.virology.net)**. All the virology on the world-wide web with links to all kinds of information for any questions about viruses (*Gael Kurath, Seattle*)

**<http://faculty.vassar.edu/lowry/VassarStats.html>**  
Vassar Stats - has some nifty stats programs that are easy to use (*Mike Hayes, Seattle*)

**<http://www.streamnet.org/>**  
StreamNet - pretty good fish and map info for the northwest (*Mike Hayes, Seattle*)

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## Alumni News

*by Gary Wedemeyer*

### Rucker Honored

Based on his lasting contributions to fisheries biology, Founding Center director Dr. Robert Rucker was recently inducted into the NW Fish Culture Hall of Fame. Although Dr. Rucker passed away several years ago, his widow and two children were present at the ceremony. Yours truly was asked to give the nominating speech and since it contains a lot of WFRC history, I have reprinted it here.

“I was honored when Mike Fallon asked me to nominate Dr. Robert R. Rucker for induction into the NW FCC Fish Culture Hall of Fame. It is particularly fitting to so because, as some of you may know, Bob Rucker not only founded the WFRC, he was also one of the founders of the NWFCC and served as chairman of one of the first sessions — the 1954 meeting held in Seattle at the

Western Fish Disease Laboratory (now WFRC) almost 50 years ago. However, Dr. Rucker's contributions to fish culture really date back to about 1945 when he developed a pioneering fish disease research program at the Mountlake Laboratory (then) a part of the U.S. Fish and Wildlife Service in Seattle to help solve mortality problems plaguing the Leavenworth National Fish Hatchery. Working with Roger Burrows, Bob quickly discovered Columnaris disease, gas supersaturation, cold-water disease, and bacterial kidney disease among others. The work to control these diseases naturally grew in importance and in 1950, he established the Western Fish Disease Laboratory at the (then) College of Fisheries at the University of Washington, moving to a new lab at Sand Point in 1957. He and his staff expanded their pioneering research and developed numerous new and improved diagnostic and control methods for more of infectious and non-infectious fish diseases then limiting the success of federal and state salmon hatcheries. In 1965, he took a chance and hired me to begin work on the role of hatchery stress factors in fish disease problems and so I personally witnessed many of the important contributions to fish culture that he made. In addition, he was one of the best laboratory directors I ever worked for. Among his many contributions that have made modern fish hatcheries possible, Bob's pioneering work on the measurement and control of nitrogen supersaturation/gas bubble disease stands out. His research findings in this area have long served as the foundation for the advanced measurement and degassing techniques routinely used in today's modern fish hatcheries. His work on infectious diseases that were limiting the success of public and

private fish hatcheries was also outstanding and lead to international recognition of both Dr. Rucker and his staff. For example, as most you probably know, the bacterial pathogen *Yersinia ruckeri* was named after Bob in recognition of the pioneering work he did in learning how to control this disease that was then seriously impacting the success of both public and private hatcheries – particularly in Idaho. In conclusion, it is very gratifying that the NWFCC is inducting Dr. Rucker into the Fish Culture Hall of Fame. Unfortunately, Bob passed away a few years ago but we are honored to have his wife Harriett Rucker, son Richard Rucker, and daughter Martha Welch here with us today.”

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### Marmelstein Retires

Former WFRC Deputy Center Director Dr. Al Marmelstein has announced his retirement effective January 6, 2003. After earning a Ph.D. in oceanography from Oregon State University in

1969, Al began his career working for the Earth Satellite Corporation developing aerial surveillance techniques for oil spill prevention and providing remote sensing support to commercial fisheries. His research also included GIS development for natural resource management for the government of Iran. He continued his remote sensing and GIS work in the new Office of Biological Services of the Fish and Wildlife Service (FWS) and eventually became administrator with line management responsibility for all FWS work in Hawaii and the Pacific Island territories. He joined the WFRC in 1990 as Deputy Director where he played a major role in coordinating the formation of the new National Biological Service as well as the design and construction of the new laboratory facility we enjoy today. Al then moved to the NBS Seattle Regional Office (now USGS) where he has served in several important capacities.

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### A Little Light Reading

- Alados, C.L., T. Navarro, J. Escos, B. Cabezudo, and J.M. Emlen. 2001. Translational and fluctuating asymmetry as tools to detect stress in stress-adapted and nonadapted plants. *International Journal of Plant Science* 162(3):607-616.
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