



YUROK TRIBE - INFORMATION SERVICES DEPARTMENT

Information Services working to provide technology to meet Tribal needs

Highlights 2007 -2008

Having to be aware of security for our systems involves equipment upgrades, antivirus, antispam, passwords, software updates, as well as keeping track of what information is leaving the organization. All computers and equipment that connect to the Tribal network make our system susceptible to virus and information attacks. We have attended training for Security for systems (homeland) and the hacker's convention to look at the opposite end of security.

We are planning development of two communication towers on the reservation. This will provide cell phone coverage throughout the reservation. Of course this will largely depend on whether we get the grants. It has been a challenge to get high speed Internet to our reservations areas: Klamath and Weitchpec. We have to purchase a point to point line to Crescent City in order to connect to high speed access for the Klamath area and have previously built three towers to get service to the Weitchpec / Kepel areas.

There isn't a day when the IT staff has time just to relax. Technology is constantly changing the way business is done. Fisheries have equipment with GIS locators making their data more accurate. We can now purchase Cell phones with locators making it possible to track the holder at any given time. Budget constraints have greatly impacted the services and the timelines to complete projects. We are a corporation with 200 or more users, 7 servers, 4 tower sites, offices in Eureka, Weitchpec, Kepel, Klamath, Crescent City, and Weaverville. On top of that most users use more than one piece of equipment and our department has been cut to two computer technicians. It is worrisome because there have already been software and hardware purchased that do not work in our environment taking more of our time trying to maintain faulty systems.

Hardware Support

There are close to 200 people employed at the Yurok Tribe. Almost all require some sort of support from the IT department in the 17 offices and schools. The Information Service staff maintains all of Yurok Tribe's systems - both the individual users' desktop PCs, laptops, printers, blackberries, and the Windows servers on which most of

the documents and other files are stored, including the email server. The IS staff are responsible for software installation and support, for Windows itself and Windows applications such as Microsoft Office.

IS staff provides LAN services across the existing network infrastructure. The objective of the team is to provide a secure, robust and appropriate computing environment for all the business functions of the Tribal Offices. The section is required to:

- Administer the Windows servers, workstations, and laptops to ensure that the environment is both secure and reliable and capable of the work required
- Administer the Exchange servers to provide email, calendaring, scheduling and discussion groups
- Ensure backup of important data is carried out effectively.
- Maintain the Anti virus systems to ensure that viruses do not affect data integrity.
- Application support for MS Office
- Register staff for LAN and email access
- Evaluate and recommend software applications for the desktop
- Co-ordinate purchase of PC software and hardware, including licenses and product issues
- Troubleshoot and diagnose faults that occur within the infrastructure

Network Support

Much of the work undertaken by the network support team is done behind-the-scenes to ensure the smooth running of the network. This includes

- installation and maintenance of network infrastructure such as cabling and network hardware
- administration of the network services that provide the transport for email and web facilities



- administration of network security measures such as firewalls
- providing the network infrastructure and services that support the Tribe's MIS applications. Virtual Private Networking is beginning to occur between all of the Yurok Tribe Sites.

Telephone System Support

Check Lines and System problems 8 offices, also radio, multiplex system to Kepel. This year we have added 3 Voice over IP telephone systems (VoIP). (Both TANF offices and the Weitchpec Office)

High Speed Internet Access

- Klamath Office: The Main Klamath office is now using Verizon Point to Point Option to Crescent City using Food Commodities office to connect to service
 - o 2nd Klamath Site (Forestry, Lodge, Fisheries, Education) Buildings have been networked – connect to Crescent City site for high speed access
 - o Housing - We added an antenna and a line to connect to our high speed access
- Weitchpec Office: High Speed Access through UIHS
- Eureka Office has DSL access

Web Page Development

- Developed at yuroktribe.org
- Contribute3 software for each department – update departmental content, Individual Departments have been updating their sections but they also can give us the information which will be added to the web page

Geographic Interface System (GIS)

The GIS program is a significant component of the Tribe's overall data management activities. GIS provides the ability to link, analyze, and overlay resource data in ways that cannot be done on paper maps or with tabular databases alone. GIS is a comprehensive, analytical tool that can improve the efficiency and

accuracy of management decisions. GIS can track and illustrate past and current resource conditions and can perform modeling techniques to predict future changes within the Tribe's ecosystem and infrastructure.

The GIS program is an integrated tool with other data management projects, tools, and activities for the overall management of the Tribe. A GIS plan is necessary to identify the GIS program development required to satisfy and support broader Tribal management needs.

Data Management

Ideal data management would be to ensure that Yurok Tribe employees create, utilize, maintain and dispose of records in a way that not only ensures protection of the Tribe's legal and financial rights, but also demonstrates a firm commitment to preserving Tribal history; however, each department maintains their own records. IT works to maintain the hardware where data resides.

- Records Inventory - database development and data entry
- Retention Schedule – Development and implementation

GOALS – short term

- *IT will establish, maintain and enhance Enterprise systems, GIS data, and Enterprise Infrastructure services to support department systems solutions for their business requirements.*
- Secure Server – transfer information between offices
- Assignment information to be compiled with the Planning Realty records stored in Docstar and GIS/Yurok Land Management
- Update parcel information from all landowners on the Yurok Reservation
- Consolidate and centralize data

GOALS – long term

Information products and services must address the Yurok Tribe's long term business needs and priorities. Designing IT solutions with a full understanding of the strategic business goals ultimately decreases costs and increases the probability of developing effective and usable solutions



Corporate data sharing should ultimately be where data is not re-keyed. Data is created once, reducing the costs and lack of reliability of maintaining similar data

- Develop Standardization procedures for hardware / software purchases
- Replace Windows 2000 servers and software
- Build out Yurok Tribe Spatial Data Infrastructure by compiling BLM survey data with Yurok Tribe data in a local database and enhancing Cadastral database by dynamically linking it with standard controls.
- Move land (geospatial) data into Yurok Tribe applications
- In conjunction with U.S. Bureau of Land Management develop the geospatial critical infrastructure databases needed to provide improved planning and response to issues within the Yurok Tribe i.e. Land, Rights, River, Natural habitat

Yurok Land Management Cadastral Survey

The Cadastral Survey field crew has exceeded expectations for the 2007 field season work quota and is looking forward to the warm weather and faster pace of the 2008 field season. Township 9 north Range 4 east section 11, Weitchpec new village assignment tracks, were completed, platted, and approved in April 2008. Township 11 north Range 3 east section 11, retracement and survey of Wautec assignment tracks are scheduled for monumentation June 2, 2008 and estimated to be platted by July 1. The Record will then be filed for preliminary review by BLM Sacramento.

YLM contract work has also been operating smoothly. The Martins Ferry bathymetry cross section and high water topographic survey was completed and delivered to Humboldt county March 2008. YLM also finished the Requa boat ramp Bathymetry and topographic survey. This project was requested by the Planning department to reduce outside survey/engineering costs on the reconstruction of the boat ramp to rebuild it to current regulations. The survey was completed and delivered to the professional engineers for design work.

Tony O'Rourke recently attended the Nevada Association of Land

Surveyors (NALS) Conference in March along with our BLM Project manager, Steve Lambeth. The conference was very informative and outlined a clear professional development plan to increase knowledge, skills, experience, and qualifications in the current working cadastral program. In conjunction with the presentations from professional land surveyors along with the educational plans outlined in the conference brought motivation and ideas to implement into the Yurok Cadastral Program. Overall this conference was very beneficial to the Yurok Tribe's Land management program.


During the NALS conference Tony was able to apply through the National Society of Professional Surveyors (NSPS) to take the first of four Certified Survey Technician (CST) Exams. The program is recognized by the U.S. Department of Labor as part of the National Apprenticeship Program. Tony passed the first exam and now holds the first level of certification. He is setting a precedent for the Yurok Tribe and all other tribes working in collaboration with BLM to become certified and licensed as land surveyors to practice our sovereign rights and allow that our program continue and expand in the future with knowledgeable trained staff. We will be administering the CST exams to our 5 man survey crew at our own facility in the future with the BLM program managers acting as the test proctors.

BIA compact dollars were not funded for the 2008 fiscal year due to the continued resolution and it is still yet to be determined when or if those funds will be relinquished to the Yurok cadastral survey program. YLM will be completing the 2008 field season with the remaining carryover money from the 2007 fiscal year. We will not be able to hire survey technician interns this summer like we have done in the previous years due to unexpected repair costs and inflation costs of the current economy.

Yurok Land Management GIS Division

There have been a lot of great projects and trainings this year for Yurok Land Management. YLM and the GIS Division sponsored a Hydrologic Engineering Centers Rivers Analysis System (HEC-RAS) Training last November. HEC-RAS is software based on the U.S. Army Corps of Engineers' HEC-RAS water surface profile model used for modeling both steady and unsteady, one-dimensional, gradually varied flow in both natural and man-made river channels. This training was conducted by Boss International; this company develops and markets engineering software known among engineers around the world as the most advanced high-tech engineering





software available. Chris Maeder, M.S, P.E, principal developer of all BOSS International engineering software and manager of software development staff and Chief engineer and consultant for complex engineering projects and an experienced instructor in advanced engineering projects, was the instructor for this course. We had 8 participants from the Yurok tribe and 4 participants from outside agencies that learned how to conduct water surface profiles, bridge hydraulics, and flood plain information studies using the steady flow capabilities of HEC-RAS. It was a very beneficial training for all involved.

Tony O'Rourke and Elly Supahan recently completed a 3 day ESRI virtual classroom ArcGIS Survey Analyst - Maintaining Land Records Using the Cadastral Editor. We have been researching the best most efficient way to incorporate our cadastral survey data into creating a survey grade accurate parcel layer with all attached land records and documents. Aside from using ESRI GIS technology, we have been working with Bureau of Land Management program manager on creating a geodetic control database (GCDB), inputting distance and bearings from survey plats to form parcel lines. We have also been working with Jamie Schubert, GIS person, for BIA to straighten out some of the land status discrepancies on trust and allotment parcels. The GIS parcel layer for the Yurok Reservation is an ongoing work in progress that is only getting better with yearly ownership updates and cadastral survey.

Yurok Tribe's GIS division has been working in collaboration with the Trinity River Fisheries Division and the U.S. Fish and Wildlife Services for the Trinity River Habitat Monitoring survey project. This project utilizes the habitat criteria definitions to identify appropriate areas at each site for ideal fish habitat. These areas were developed as a series of spatially referenced GIS layers created from survey points taken by the fisheries field crews identifying the bank of the river, vegetation and wooded cover, and potential fry and presmolt habitat areas (determined by depth and velocity). Once the GIS layers were created a validation study occurred. Sample dive areas were created in GIS to take into account all of the possible scenarios of fish habitat for the fisheries habitat team to go dive the systematic sample areas to count Chinook and Coho fry and presmolt. This was a very rewarding project to be working on. Along with the data creation the GIS Division had to create the standard operating procedures (SOP) for others to be able to follow in the future. Pressure to find strategies that work for the fisheries habitat team on time sensitive data with a collaboration of people was a great experience. There is still a lot of work to be done to finish up the project and the GIS Division is glad

we can help.

Along with the large scale projects, the GIS division works daily on departmental data and map requests for a variety of departments including Forestry, watershed, self governance, fisheries, and many others. We are continuing to expand our GIS knowledge and capabilities and keep the Yurok Tribe GIS functioning efficiently and effectively.

Information Services Staff:

- Anna Blake, Manager - Location Klamath Office 482-1350 ext 371
- Paul Romero, Computer Technician II – Location Klamath Office 482-1350 ext 372
- Tony O'Rourke, GIS Coordinator – Location Weitchpec Office 530 625-4130 ext 224
- Ellie Supahan, GIS Coordinator – Location Weitchpec Office
- Loren McCovey, Crew Lead Field Survey Technician- - Location Field Office
- Terrance McCovey, Crew Lead Field Survey Technician –Location Field Office
- Lonnie Dean , Field Survey Tech – Location Field Office /Weitchpec
- Ryan Offins, Field Survey Tech – Location Field Office / Weitchpec

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