

**Humboldt Bay NWRC
Richard J. Guadagno Scholarship
PowerPoint Orientation
2008-2009 Academic Year**

- I. Evolution of the Scholarship**
- II. Elements of the application, approximate timeline to follow, scholarship expectations**
- III. Humboldt Bay National Wildlife Refuge-
Who We Are & What We Do...**

Evolution of the Scholarship

Richard J. Guadagno Memorial Scholarship
Applications Available
Fall Semester 2007 to:
College of the Redwoods Students
interested in pursuing a career
in Natural Resources / the Sciences
One \$500 Scholarship

Richard (Rich) J. Guadagno
September 26, 1962- September 11, 2001
Rich worked for the U.S. Fish and Wildlife Service for 17 years and devoted his life to the conservation of natural resources. He was Refuge Manager of the Humboldt Bay National Wildlife Refuge from March 12, 2000 to September 11, 2001. On September 11th, Rich's plane, United Airlines Flight 93, was hijacked by terrorists and crashed in rural Pennsylvania, killing everyone on board. Rich died as a hero on flight 93, and with the other passengers and crew prevented further tragedy at the cost of their lives.
In an effort to sustain the legacy of Rich's commitment to resource conservation, a scholarship fund was created in his honor. This scholarship is made possible through the generous donations of many individuals who cared about Rich and matched by the National Fish and Wildlife Foundation (NFWF).

Selection Criteria Include:

- Letter of Application (essay format);
- Résumé;
- Two Letters of Recommendation;
- Transcripts.

Applications Available September 11, 2007:
By Email: Shannon_Smith@fws.gov
Deadline for Submission of Application Materials: December 1, 2007
Scholarship Award Announced: Spring Semester 2008

Richard J. Guadagno Memorial Scholarships
Applications Available
Fall Semester 2007 to:
Humboldt State University
Juniors, Seniors, and Graduate Students
with a Declared Major within the
College of Natural Resources and Sciences
One Undergraduate (\$1,000)
and
One Graduate (\$2,000)

Richard (Rich) J. Guadagno
September 26, 1962- September 11, 2001
Rich worked for the U.S. Fish and Wildlife Service for 17 years and devoted his life to the conservation of natural resources. He was Refuge Manager of the Humboldt Bay National Wildlife Refuge from March 12, 2000 to September 11, 2001. On September 11th, Rich's plane, United Airlines Flight 93, was hijacked by terrorists and crashed in rural Pennsylvania, killing everyone on board. Rich died as a hero on flight 93, and with the other passengers and crew prevented further tragedy at the cost of their lives.
In an effort to sustain the legacy of Rich's commitment to resource conservation, a scholarship fund was created in his honor. These scholarships are made possible through the generous donations of many individuals who cared about Rich and matched by the National Fish and Wildlife Foundation (NFWF).

Selection Criteria Include:

- Graduates-Thesis/Project Proposal (Must be Reviewed by Major Advisor);
- Undergrads-Senior Thesis/Indep. Study Proposal (Must be Reviewed by Major Advisor);
- Preference will be given to students submitting proposals with potential to contribute to studies in the following locations, respectively: Humboldt Bay National Wildlife Refuge Complex, Humboldt Bay and Associated Watersheds, Humboldt County, California, U.S.;
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Evolution of the Scholarship (see the attached three articles)

Richard (Rich) J. Guadagno

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- A. Sept. 11th and local connection
- B. Talk about Rich as a person
- C. Legacy of conservation his family can carry on since Rich cannot
- D. Fitting tribute in his honor

NORTH COAST & REGION

Scholarships given in memory of refuge director

Sara Watson Arthurs
THE TIMES-STANDARD

LOLETA — Richard Guadagno hired Shannon Smith just a month before he died, and quickly impressed upon her his affection for the Humboldt Bay National Wildlife Refuge and his interest in wildlife education.

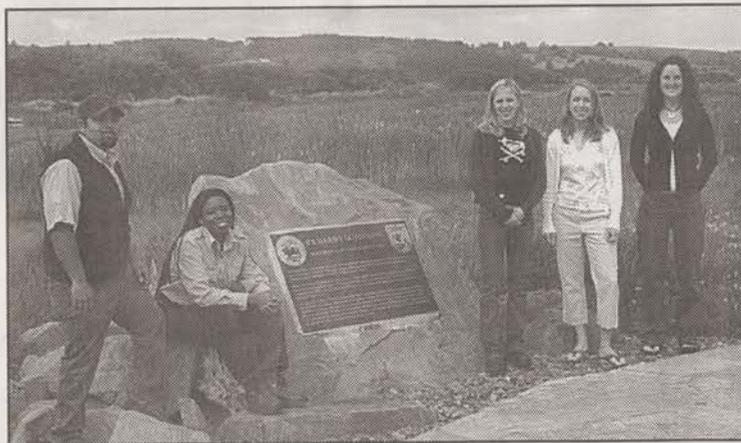
Guadagno, then the refuge manager, died in the terrorist attacks of Sept. 11, 2001. He was aboard Flight 93, which crashed in Pennsylvania after some of the passengers apparently rushed their attackers.

“Just in the short amount of time I knew him I got a clear sense of what his goals were and what his vision was for the refuge,” said Smith, deputy project leader at the refuge.

It’s a vision that included working more closely with local wildlife students, she said.

Now four students are getting a chance to do in-depth wildlife research with the help of funds donated in Guadagno’s memory. The students received Richard J. Guadagno Scholarships this week.

“People just wanted to do some-



ERIC NELSON/HUMBOLDT BAY NATIONAL WILDLIFE REFUGE

Humboldt State University student Orlando Rocha (left to right), Humboldt Bay National Wildlife Refuge Deputy Project Leader Shannon Smith, College of the Redwoods student Courtney Owens, and HSU students Kristin Engel and Amy Leist gather by a plaque commemorating former refuge manager Richard Guadagno.

thing” after his death, Smith said. “For a lot of people it was giving money in Rich’s name.”

The National Fish and Wildlife Foundation agreed to match the donations, and Guadagno’s family and the National

Fish and Wildlife Foundation selected the candidates.

The group decided to award two graduate scholarships instead of one because both Kristin Engel and Amy Leist were “such deserving applicants,” as Krystyna Wolniakowski of the foundation said.

Leist plans to study the effects of nutrition, particularly through fruit, on the Swainson’s thrush. Her project involves netting the birds, drawing blood and then analyzing the plasma. Even though she’s teaming up with a doctoral student to buy supplies, she said it will be expensive, and the scholarship is a big help.

“The fact that they thought of this means a lot,” she said.

Engel is studying spawning sites of coho salmon along Freshwater Creek, and said learning which sites female salmon choose may help guide future conservation projects. Smith added that this project in particular has implications for the wildlife refuge.

Orlando Rocha, recipient of the undergraduate scholarship, graduation from HSU and is starting a job with the California

Department of Fish and Game. He’s studying the way water birds use habitats in the Fay Slough area.

Courtney Owens said she’s been fascinated with amphibians, particularly red-legged frogs, since high school. She will graduate from CR and transfer to HSU as a wildlife major this fall. She said CR biology professor Jeff Hogue, a friend of Guadagno’s, urged her to apply for the scholarship. Owens hasn’t yet chosen a specific project.

“This is an awesome way to honor him and his memory,” she said.

Guadagno’s family — parents Jerry and Bea Guadagno of New Jersey and sister Lori of Florida — said in a statement: “We feel this is a fitting way to keep his memory alive at a place and area he cared a great deal for and we are hopeful that the scholarships will serve Rich’s memory, and the North Coast, in perpetuity.”

In September, the refuge will begin taking applications for next year’s scholarships. For more information e-mail Smith at Shannon_Smith@fws.gov.



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Passenger: Richard Guadagno

Sunday, October 28, 2001

While a youngster in New Jersey, Richard Guadagno became enchanted by growing things.

Latching onto two older men who gardened in his neighborhood, Guadagno learned how to nurture plants, to coax life from seeds, until one summer, he grew 23 varieties of lettuce in his family's yard.

It was vintage Rich Guadagno, who grew up to become a Renaissance man fascinated by everything, daunted by nothing and supremely capable.

Guadagno's far-ranging interests stretched from cooking to music, gardening to geology, astronomy to photography. And always, pulsing beneath it all, was his love of nature and his urge to protect it.

A longtime employee of the U.S. Fish and Wildlife Service, Guadagno had most recently managed the Humboldt Bay National Wildlife Refuge in Eureka, Calif., his sixth refuge posting during a 17-year career with the federal government.

After graduating from Rutgers University's Cook College in 1984, Guadagno first worked for environmental



Richard Guadagno
■ **Manager, Humboldt Bay National Wildlife Refuge, U.S. Fish and Wildlife Service, 38, Eureka, Calif.**
Parents, Jerry and Beatrice; sister, Lori
He was headed home after celebrating his grandmother's 100th birthday



consultants who represented utilities and land developers. He quickly discovered that he felt more at home as their opponent.

Guadagno took his duties seriously, once chiding his mother, Beatrice, not to pick wildflowers as they strolled along a trail in Oregon.

Another time, he mortified his older sister, Lori, during a trip to Mount Rainier by whipping out his badge and citing a hiker whose dog was running free and chasing marmots. People on the trail applauded.

Trained to deal with trouble, the compact Guadagno -- 5 feet 8 inches and muscular -- carried a gun while working, in case he stumbled upon a drug lab in some remote bog.

Guadagno took classical guitar lessons, and then, not content with just playing the instrument, he learned how to build one.

He also created glassware, collected fossils, sanded rocks, did taxidermy, made furniture -- and always, there was a garden. In Oregon, he tended 60 tomato plants.

When he moved to California, he found a place to call home: It was just he and his beloved German Shepherd, Raven, in an A-frame on an acre with a view of the Pacific, orchids in the kitchen, hummingbirds all around and 150 trees that he had planted by hand.



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LOCAL

September 10, 2006

Parents of Flight 93 victim say the horror never fades

By Mark Freeman
Mail Tribune



Richard Guadagno

The overheard rumbles of jet airplanes constantly remind Jerry Guadagno how Sept. 11, 2001, an event that changed the nation, became his family's personal tragedy.

The sound propels Guadagno's mind into the cabin of United Flight 93, where history remembers his son, Richard Guadagno of Eureka, Calif., as one of the passengers who helped crash the plane into a Pennsylvania field rather than allow hijackers to fly it into the White House or the Capitol.

Five years later, Jerry Guadagno and his wife, Bea, remain chained to reliving the events that stole America's sense of security as quickly and violently as it took their only son, a federal refuge manager in Humboldt County.

"We live this 24/7," says Guadagno, 82. "It never leaves you. I hear a plane and I relive this thing all the time. Constantly."

"It's a long road, a long road," he says. "And it doesn't get any better. Ever."

On the eve of the fifth anniversary of the terrorists attacks, the country pauses to remember 9/11. Services include a memorial planned Monday in Shanksville, Penn., the site where Flight 93 crashed and where the 33 passengers and seven crew members are hailed as heroes.



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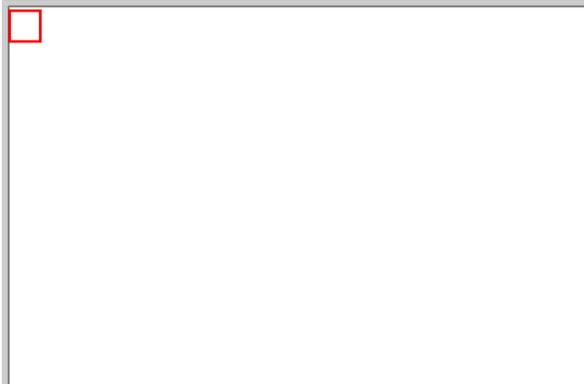
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Warned by cell phone calls that two planes had hit the World Trade Center that day and a third had pummeled the Pentagon, Flight 93's passengers and crew thwarted seven hijackers' efforts by rushing the cockpit.

Family members and friends remain convinced that Richard Guadagno — a no-nonsense guy with a law-enforcement background in the U.S. Fish and Wildlife Service — was part of the group that stormed the cockpit during the infamous "Let's Roll" charge.



The advertisement features the Verizon logo at the top right. The main text reads "VoiceWingSM Broadband Calling" in large white font on a red background. Below this, it says "Unlimited local and domestic long distance Starting at only \$29.95/month". At the bottom, there is a "Tell me more" link with a play button icon.

"They changed the course of history, and my brother was part of that," says sister Lori Guadagno, a Florida artist. "If that plane had reached its target, everybody would be living different lives than they are now."

As the closest Sept. 11 victim to Southern Oregon and the only one within the federal refuge system, Richard Guadagno has become a touchstone of sorts for a region and an agency still trying to come to grips with the post-Sept. 11 world.

Plaques in Guadagno's honor dot refuges in Northern California, the Salem area and along the East Coast. He posthumously has received the Department of the Interior's Valor Award and he is memorialized at the U.S. Fish and Wildlife Service's training headquarters in West Virginia.

"A death anywhere in the agency is felt everywhere in the agency," says David Klinger, a former fish and wildlife spokesman in Portland now at the West Virginia facility.

"I knew him in passing, but I think of him all the time," Klinger says. "I walk past his plaque on the way to lunch every day."

The Guadagnos have gone to great lengths to get away from the overwhelming reminders of Sept. 11. They fled their native New Jersey to escape its horrific plane traffic over their suburban Trenton home and the New York media bombardment of World Trade Center stories.

They now live 10 minutes away from Lori Guadagno near Jacksonville, Fla.

"We did it to be closer to Lori," Jerry Guadagno says. "She's all we have now."

But old sorrows have followed them south.

"It's like it happened yesterday," Bea Guadagno says.

Jerry Guadagno doesn't want to forget, nor let anyone forget, his son — even those who never knew Richard.

Casual conversations among strangers on the golf course or the supermarket often steer to Richard, his soulful and intriguing life and his heroic death.

"I like to talk about Richard," Jerry Guadagno says. "Any way I can keep him alive, I do."

In life, Richard Guadagno was an adventurous renaissance man with a conviction for protecting the environment so deep that he once chided his mother for picking a wildflower.

This curly-haired agent was not just some biologist with a badge.

Though short and wiry with a soft smile, Guadagno exercised so intensely that he could bench-press 360 pounds. Yet he still had the dexterity to do bonsai, make stained-glass windows and dabble in taxidermy.

Guadagno climbed mountains, surfed, scuba-dived, drove motorcycles and built guitars. He hunted elk, yet pampered the orchids in the same Eureka kitchen where he created gourmet meals for his fiancée.

"My brother was such an interesting person who balanced all this yin and yang in his life," Lori Guadagno says. "You could tell his story to so many people in so many different generations, and they would find him fascinating."

But media accounts of Flight 93 largely have overlooked Guadagno, the family says, focusing instead on other flight members.

"He was a (Flight) 93 person who didn't have a cell phone that, apparently, makes him less of a story," Lori Guadagno says.

Retelling the story still grants little solace to the family, whose private sorrows remain displayed in the public arena.

"My personal grief is a spectacle," Lori Guadagno says. It's a historic event and it's surreal."

Equally surreal is a feeling among family members that Flight 93 is fading into the background while America obsesses with New York City's losses and the images of planes striking the towers.

In some of those casual conversations Jerry Guadagno has on golf courses and markets, he gets strange looks from people when he says his son died on Flight 93.

"They look at you like, 'What are you talking about?'" Jerry Guadagno says. "They don't remember.

"Flight 93 is the forgotten flight," he says. "You don't hear much about it. You don't hear much about the Pentagon. It's all World Trade Center."

But they now sense a chance for change.

"Flight 93," a critically acclaimed movie released earlier this year and now out on DVD, depicts the events of that flight. Included is Guadagno, played by actor Daniel Sauli.

The Guadagnos have helped with the movie and appear in a 60-minute documentary about the making of the film.

Lori Guadagno, who calls Flight 93 the "dangling appendage of the whole 9/11 story," says the film gives the events on that plane "an opportunity to be its own story."

"If it's not going to be included with what happened in New York City, then at least it has its own story," she says.

Flight 93 also has its own ceremony Monday.

Jerry and Bea Guadagno will be at Shanksville on Monday, standing in silence in the field where Flight 93 will forever be memorialized as a national park.

It's the only place the Guadagnos can stomach on a Sept. 11.

"I get some kind of comfort out of being there and I think Bea does, too," Jerry Guadagno says. "This is where our son is. I'm not going to tell you it's enjoyable, but it's comfortable to be with him."

Reach reporter Mark Freeman at 776-4470, or e-mail mfreeman@mailtribune.com.

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Elements of the application, approximate timeline to follow, scholarship expectations :

1. Qualifications & Application Procedure
2. Additional Information
3. Timeline (deadline, selection, awards announcement)
4. Funds Dispersal
(FAFSA applicant vs. non-FAFSA applicant)
5. Expectations...

QUALIFICATIONS & APPLICATION PROCEDURE- HUMBOLDT STATE STUDENTS

Humboldt State University
RICHARD J. GUADAGNO MEMORIAL SCHOLARSHIPS
Academic Year 2007/2008

One \$1,000 Undergraduate Scholarship
One \$2,000 Graduate Scholarship

Richard (Rich) J. Guadagno
September 26, 1962 - September 11, 2001

Rich worked for the U.S. Fish and Wildlife Service for 17 years and devoted his life to the conservation of natural resources. He was Refuge Manager of the Humboldt Bay National Wildlife Refuge from March 12, 2000 to September 11, 2001. On September 11th, Rich's plane, United Airlines Flight 93, was hijacked by terrorists and crashed in rural Pennsylvania, killing everyone on board. Rich died as a hero on flight 93, and with the other passengers and crew proved further tragedy as the cost of their lives. In an effort to sustain the legacy of Rich's commitment to resource conservation, a scholarship fund was created in his honor. These scholarships are made possible through the generous donations of many individuals who cared about Rich and matched by the National Fish and Wildlife Foundation (NFWF).

QUALIFICATIONS:

1. Must be an enrolled student (minimum of 6 units per semester) pursuing an undergraduate (juniors and seniors only) or graduate degree in natural resources and sciences major at Humboldt State University. Eligible Majors include: Biological Sciences, Botany, Chemistry, Computing Science, Environmental & Natural Resource Sciences, Environmental Resources Engineering, Environmental Sciences, Fisheries Biology, Forestry, Geography, Geology, Mathematics, Natural Resource Planning and Interpretation, Oceanography, Rangeland Resource Science, Watershed Management, Wildlife Management, and Zoology.
2. Must review PowerPoint presentation (pdf file) of scholarship orientation, in lieu of mandatory on-site refuge orientation requirement in previous years.
3. Must have a cumulative minimum GPA of 2.50 (HSU and transfer courses, if applicable).
4. Financial need shall NOT be a consideration in awarding the scholarship.
5. Graduates must have project / thesis proposal reviewed by Major Advisor. Undergraduates must have senior thesis/independent study proposal reviewed by Major Advisor.
6. Preference will be given to students submitting proposals with potential to contribute to studies in the following locations, respectively: Humboldt Bay National Wildlife Refuge Complex, Humboldt Bay and Associated Watersheds, Humboldt County, California, U.S.

APPLICATION PROCEDURE:
Scholarships will be awarded based on a combination of the following five elements:

1. Submit an essay (1-2 pages, typewritten) addressing topics such as: community service activities, personal conservation ethic, professional career, and goals in the field of natural resources.
2. Submit a (2-3 page, typewritten) project proposal. *Include the following elements: Title, Introduction, Background, Proposed Research, Literature Cited, Tables or Figures. Also include a "Reviewed By" line for Major Advisor's signature.*
3. Submit resume.
4. Submit copies of official transcripts. *Please do not submit print-outs of long transcripts you can retrieve on-line.*

Page 1 of 1

5. Submit two letters of recommendation from faculty, professionals in field, work supervisors, or others qualified to recommend candidate on the basis of: A) Overall character; B) How student has applied academic knowledge to real-life management or scientific issues; and C) Potential for growth and commitment to life-long profession of natural resource management / the sciences.

ADDITIONAL INFORMATION:

1. Selections will be made by a committee consisting of: two HSU faculty, two Refuge staff, one National Fish and Wildlife Foundation representative, one community representative, and one representative of the Guadagno family.
2. For academic year 2007/2008 scholarship awards will be announced and funds dispersed Spring 2008 Semester.
3. Previous winners of the scholarships are eligible for future awards.
4. Scholarship will not be awarded if no candidate meets the criteria.
5. Scholarship recipients will be required to submit a copy of final report or written scientific thesis / paper to the Refuge. (*Scientific Journal Style, i.e., JWM, NAFM, etc.*)
6. Note: Graduate students are strongly encouraged to submit thesis / project for professional publication(s).

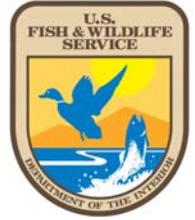
DEADLINE: Application package must be RECEIVED by December 01, 2007.

SUBMIT ALL MATERIALS TO: HUMBOLDT BAY NWR, P.O. BOX 576, LOLETA, CA 95551.
Attn: Shannon Smith

FOR QUESTIONS / MORE INFO CONTACT SHANNON SMITH VIA EMAIL: shannon_smith@fws.gov



Humboldt State University
RICHARD J. GUADAGNO MEMORIAL SCHOLARSHIPS
Academic Year 2008/2009



One \$1,000 Undergraduate Scholarship
One \$2,000 Graduate Scholarship

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3. Must have a cumulative minimum GPA of 2.50 (HSU and transfer courses, if applicable).
4. Financial need shall **NOT** be a consideration in awarding the scholarship.
5. Graduates must have project / thesis proposal reviewed by Major Advisor. Undergraduates must have senior thesis/independent study proposal reviewed by Major Advisor.
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1. Submit an essay (1-2 pages, typewritten) addressing topics such as community service activities, personal conservation ethic, professional interest, and goals in the field of natural resources.
2. Submit a (2-3 page, typewritten) project proposal. *Include the following elements: Title, Introduction, Background, Proposed Research, Literature Cited, Tables or Figures. Also include a "Reviewed By" line for Major Advisor's signature.*

3. Submit resume.
4. Submit **copies of official transcripts**. *Please do not submit print-outs of long transcripts you can retrieve on-line.*
5. Submit two letters of recommendation from faculty, professionals in field, work supervisors, or others qualified to recommend candidate on the basis of: A) Overall character; B) How student has applied academic knowledge to real-life management or scientific issues; and C) Potential for growth and commitment to life-long profession of natural resource management / the sciences.

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**SUBMIT ALL MATERIALS TO: HUMBOLDT BAY NWR, P.O. BOX 576, LOLETA, CA 95551.
Attn: Shannon Smith.**

FOR QUESTIONS / MORE INFO CONTACT SHANNON SMITH VIA EMAIL: shannon_smith@fws.gov

QUALIFICATIONS & APPLICATION PROCEDURE- COLLEGE OF THE REDWOODS STUDENTS



College of the Redwoods
RICHARD J. GUADAGNO MEMORIAL SCHOLARSHIP
Academic Year 2007/2008

One \$500 Scholarship

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September 16, 1963, September 11, 2001

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QUALIFICATIONS:

1. Must be an enrolled student (minimum of 6 units per semester) interested in pursuing an undergraduate degree in (Natural Resources) Sciences. Potential Majors submitted in pursuing: Biological Sciences, Botany, Chemistry, Computing Science, Environmental & Natural Resources Sciences, Environmental Resources Engineering, Environmental Science, Fisheries Biology, Forestry, Geography, Geology, Meteorology, Natural Resources Planning and Implementation, Oceanography, Regional Resource Science, Watershed Management, Wildlife Management, and Zoology.
2. Must have a cumulative minimum GPA of 2.50 (CR and transfer courses, if applicable).
3. Financial need shall *NOT* be a consideration in awarding the scholarship.

APPLICATION PROCEDURE:
Scholarship will be awarded based on a combination of the following four elements (1-5):

1. Must review .pdf file of PowerPoint presentation of scholarship orientation.
2. Submit an essay (1-2 pages, typewritten) addressing topics such as community service activities, personal conservation ethic, professional interest, and goals in the field of natural resources/sciences.
3. Submit resume.
4. Submit copies of official transcripts. *Please do not submit print-outs of long transcripts you can retrieve on-line*
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3. Scholarship will not be awarded if no candidate meets the criteria.

DEADLINE: Application package must be RECEIVED by December 01, 2007.

SUBMIT ALL MATERIALS TO: HUMBOLDT BAY NWK, P.O. BOX 876, LOLETA, CA, 95651. Attn: Shannon Smith.
FOR QUESTIONS - MORE INFO CONTACT SHANNON SMITH VIA E-MAIL: shannon_smith@fws.gov



College of the Redwoods
RICHARD J. GUADAGNO MEMORIAL SCHOLARSHIP
Academic Year 2008/2009



One \$500 Scholarship

Richard (Rich) J. Guadagno
September 26, 1962- September 11, 2001

Rich worked for the U.S. Fish and Wildlife Service for 17 years and devoted his life to the conservation of natural resources. He was Refuge Manager of the Humboldt Bay National Wildlife Refuge from March 12, 2000 to September 11, 2001. On September 11th, Rich's plane, United Airlines Flight 93, was hijacked by terrorists and crashed in rural Pennsylvania, killing everyone on board. Rich died as a hero on flight 93, and with the other passengers and crew prevented further tragedy at the cost of their lives. In an effort to sustain the legacy of Rich's commitment to resource conservation, a scholarship fund was created in his honor. This scholarship is made possible through the generous donations of many individuals who cared about Rich and matched by the National Fish and Wildlife Foundation (NFWF).

QUALIFICATIONS:

1. Must be an enrolled student (minimum of 6 units per semester) interested in pursuing an undergraduate degree in Natural Resources/ Sciences. Potential Majors interested in pursuing: Biological Sciences, Botany, Chemistry, Computing Science, Environmental & Natural Resource Sciences, Environmental Resources Engineering, Environmental Sciences, Fisheries Biology, Forestry, Geography, Geology, Mathematics, Natural Resource Planning and Interpretation, Oceanography, Rangeland Resource Science, Watershed Management, Wildlife Management, and Zoology.
2. Must have a cumulative minimum GPA of 2.50 (CR and transfer courses, if applicable).
3. Financial need shall *NOT* be a consideration in awarding the scholarship.

APPLICATION PROCEDURE:

Scholarship will be awarded based on a combination of the following four elements (2-5):

1. **Must review .pdf file of PowerPoint presentation of scholarship orientation. (See Website: www.fws.gov/humboldtбай)**
2. Submit an essay (1-2 pages, typewritten) addressing topics such as community service activities, personal conservation ethic, professional interest, and goals in the field of natural resources/sciences.
3. Submit resume.
4. Submit **copies of official** transcripts. Please do not submit print-outs of long transcripts you can retrieve on-line.
5. Submit two letters of recommendation from faculty, professionals in field, work supervisors, or others qualified to recommend candidate on the basis of: A) Overall character and B) Potential for growth and commitment to life-long profession of natural resource management / the sciences.

ADDITIONAL INFORMATION:

1. Selections will be made by a committee consisting of: one CR faculty, one Refuge staff, one National Fish and Wildlife Foundation representative, one community representative, and one representative of the Guadagno family. For academic year 2008/2009 scholarship awards will be announced and funds dispersed Spring 2009 Semester.
2. Previous winners of the scholarships are eligible for future awards.
3. Scholarship will not be awarded if no candidate meets the criteria.

DEADLINE: Application package must be RECEIVED by December 01, 2008.

SUBMIT ALL MATERIALS TO: HUMBOLDT BAY NWR, P.O. BOX 576, LOLETA, CA. 95551.
Attn: Shannon Smith.

FOR QUESTIONS / MORE INFO CONTACT SHANNON SMITH VIA E-MAIL: shannon_smith@fws.gov

ADDITIONAL INFORMATION

- You can apply for multiple years if not selected this year.
- If you don't have all elements together yet, apply again next year.
- Special Use Permits needed for Refuge studies. See refuge website for instructions (www.fws.gov/humboldtby).

ANNUAL SCHOLARSHIP TIMELINE

Application information available all year round on NFWF (www.nfwf.org) and HBNWR (www.fws.gov/humboldtby) websites

- 9/11 - 12/1 Application acceptance period
- 12/1 Application deadline (must be postmarked or on site @ refuge by this date)
- Dec.-Jan. Reviewing/rating of applications by selection committee
- Jan.-Feb Internal selection confirmations, additional requirements sought by NFWF
- Spring Semester Award selections announced and funds dispersed

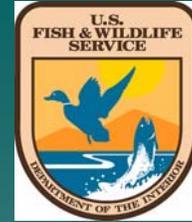
Funds Dispersal

(FAFSA applicant vs. non-FAFSA applicant)

- Funds Dispersal. FAFSA (Financial Aid Federal Student Application)
- Check dispersal through NFWF (will be getting a 1099 Form for tax purposes)

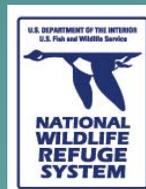
Expectations...

- Copy of final thesis, project, or report is expected to be given to the refuge.
- The Guadagno family would also like to see this final report.
- You may also be asked to give presentations.
- Grad Students are strongly encouraged to submit for publication.



America's National Wildlife Refuge System

Jewels of Habitat



The National Wildlife Refuge System is part of the U.S. Fish and Wildlife Service, which is one of several federal agencies within the Department of Interior. (The National Parks Service, Bureau of Land Management, Bureau of Indian Affairs, USGS, Minerals Management Service are also within the Department of Interior). Most of you have been to a national park, such as the Grand Canyon or Yosemite. The National Park Service is like a sister organization to the Fish and Wildlife Service, but while parks are managed primarily for people to enjoy, refuges are managed primarily for the needs of wildlife. The U.S. Fish and Wildlife Service is the principal Federal agency responsible for conserving, protecting and enhancing fish, wildlife and plants and their habitats for the continuing benefit of the American people.

The Service manages the 95-million-acre National Wildlife Refuge System, which encompasses 547 national wildlife refuges, thousands of small wetlands and other special management areas. It also operates 69 national fish hatcheries, 64 fishery resources offices and 81 ecological services field stations. The agency enforces federal wildlife laws, administers the Endangered Species Act for all species with the exception of anadromous fish and most marine mammals, which are managed by Nat'l Oceanographic and Atmospheric Administration (NOAA), manages migratory bird populations, restores nationally significant fisheries, conserves and restores wildlife habitat such as wetlands, helps foreign governments through its International Affairs offices; and Native American tribal governments with their conservation efforts. It also oversees the Federal Assistance program, which distributes hundreds of millions of dollars in excise taxes on fishing and hunting equipment to state fish and wildlife agencies. It employs about 7,500 people at nearly 700 field offices throughout the country. The headquarters are in Washington DC, and there are eight main, regional offices throughout the nation.

Market Hunters



In the 1800's and early 1900's, birds were killed in massive numbers both as a source of meat and for their feathers, which were in high demand as decorations on ladies' hats. There were no limits, seasons, or restrictions on bird hunting. Feather seekers and market hunters pushed many wetland birds toward extinction.

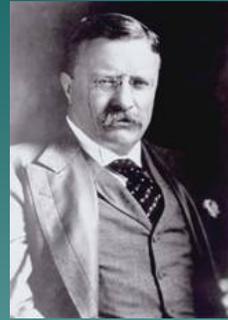
Egg Collecting



Men collecting eggs. Seabird eggs were a valuable source of protein. “Eggers” could get up to a dollar for a dozen eggs.

The National Wildlife Refuge System

- ◆ First refuge – Pelican Island
 - established by Teddy Roosevelt in 1903
- ◆ Today:
 - 545 National Wildlife Refuges on
 - 96 million acres
 - More than 40 million visitors per year
- ◆ Largest system of lands in the world dedicated to wildlife conservation
- ◆ From .6 acre, Mille Lacs NWR (Minnesota) to the 19.2 million acre, Arctic NWR (Alaska).





This map is not inserted to make you squint, but just to illustrate the fact that refuges are in every state...

Mission of the National Wildlife Refuge System:

“To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

The Mission of the NWRS is:

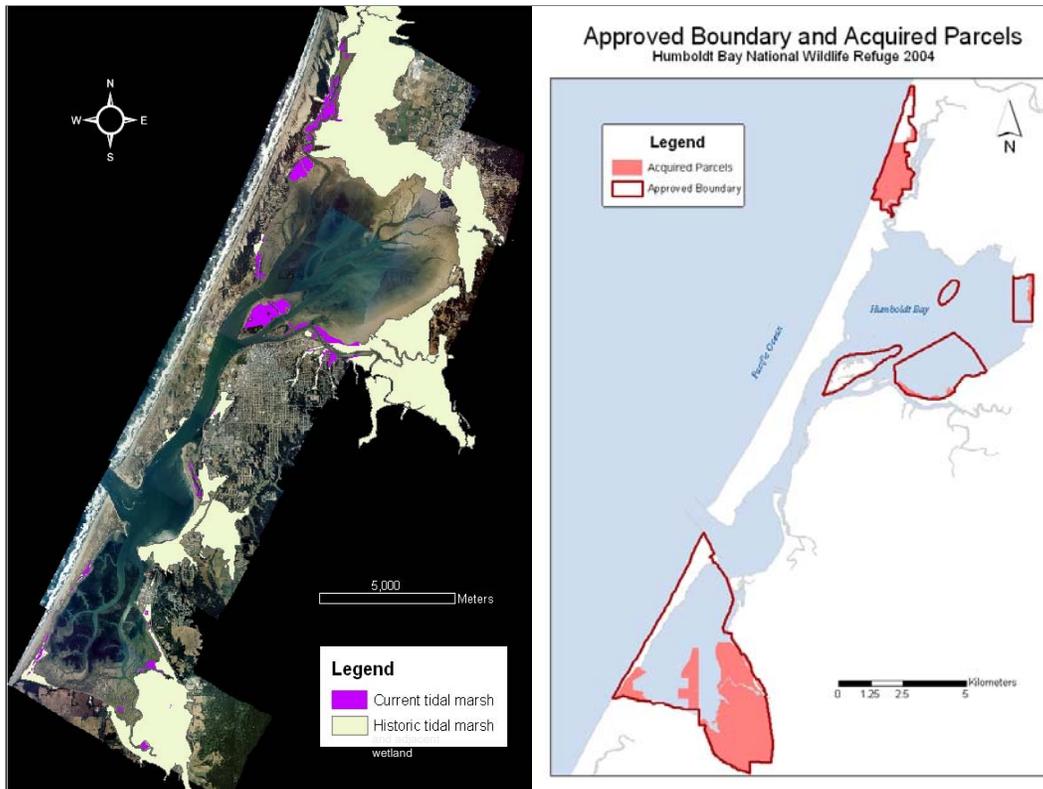
The Mission was defined in the NWR Improvement Act, which was passed by Congress in 1997. This Act shapes Refuge management by providing important regulations which all Refuges must follow. It specifies that Refuges can allow only wildlife-dependent recreation that is “compatible”, meaning that the recreation does not negatively impact wildlife **populations**. The Act requires maintaining the biological integrity, diversity and the environmental health of the Refuge System, and for every Refuge to prepare a Comprehensive Conservation Plan. The NWRS is where wildlife comes first.

general audiences

The Mission of the NWRS is:

The Mission was defined as part of the NWR Improvement Act. This Act was passed by Congress in 1997 and provides important management rules for Refuges to follow. The Act specifies that only wildlife-dependant recreation can take place on Refuges (wildlife photography, bird watching, hunting, for example.) It requires that each Refuge write a long-term management plan (CCP) and that the Refuge system as a whole maintains biological diversity, integrity, and environmental health. The NWRS is where wildlife comes first.

So far we have talked about the history of the NWRS and how the NWRS is managed. Next I'll talk about HBNWR, which we are fortunate to have right in our backyard. We'll have a virtual tour of the habitats and wildlife at HBNWR. I'll share with you what the staff at HBNWR do and what YOU can do when you come to visit HBNWR!



When a Refuge is formed, an “approved boundary” is designated. Land within the approved boundary may be purchased by the government to become part of the Refuge. The red line indicates the approved boundary for HBNWR and the red shaded areas are part of the Refuge. Humboldt Bay NWR was established in 1971, primarily to protect migratory birds and the remaining saltmarsh around Humboldt Bay. The beige in the picture on the left shows the area around Humboldt Bay that was saltmarsh until the late 1800’s. Logically, refuge boundaries might have included much of the remaining historic tidal marsh that had not been developed....But the boundaries of this Refuge were largely influenced by other factors. As you can see, the refuge boundaries don’t match the historic tidelands. The approved boundary covers about 9,000 acres, of which the Refuge has acquired nearly 4,000 acres. Today, fortunately most of the historic tidelands are conserved under the public ownership of either the refuge, CA DFG, or the Cities of Eureka and Arcata.

Refuge Staff

- Refuge Manager
- Assistant Manager
- Ecologist and Resource Specialist
- Equipment Operator
- Maintenance Worker
- Administrative Assistant
- * Contractors and Volunteers/Friends

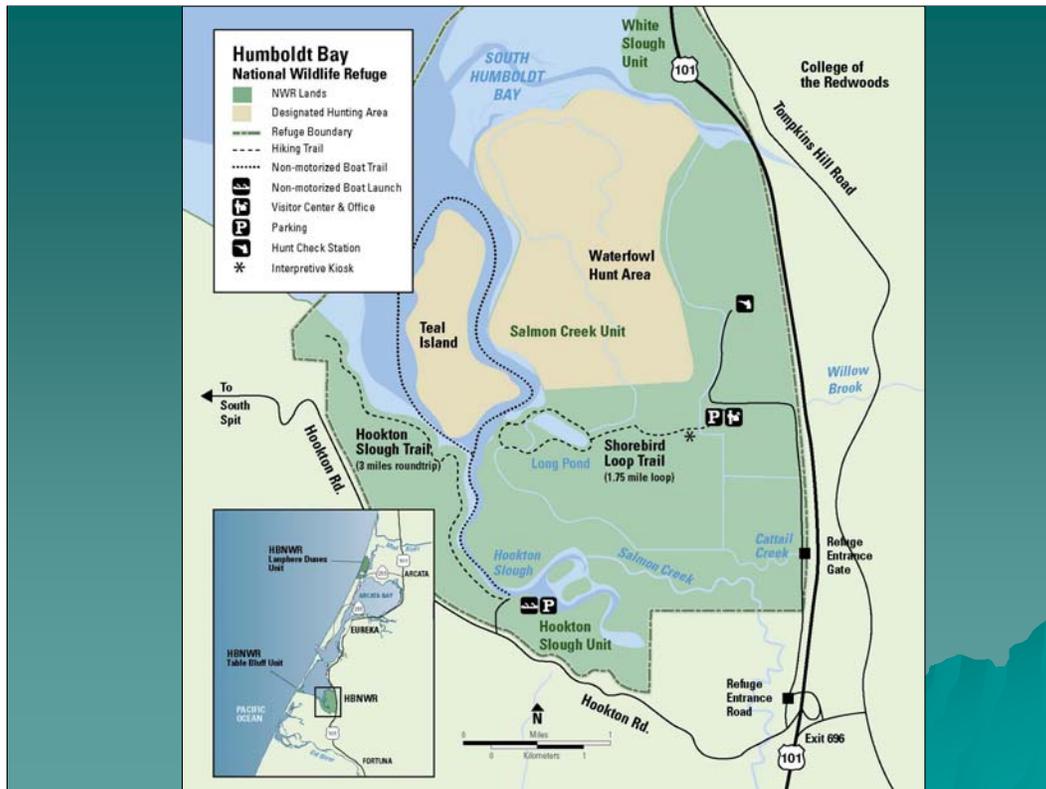
Habitats of Humboldt Bay NWR

- ◆ Seasonal wetlands
- ◆ Permanent wetlands
- ◆ Grasslands
- ◆ Dunes and dune forest
- ◆ Riparian areas
- ◆ Salt and brackish marsh
- ◆ Tidal eelgrass and mudflats

HBNWR includes more than just saltmarsh.



Seasonal wetlands follow our local rain cycle and are inundated from about November to early May. These wetlands provide seeds and invertebrates (bugs) for migratory waterfowl to feed on, and places for them to rest.



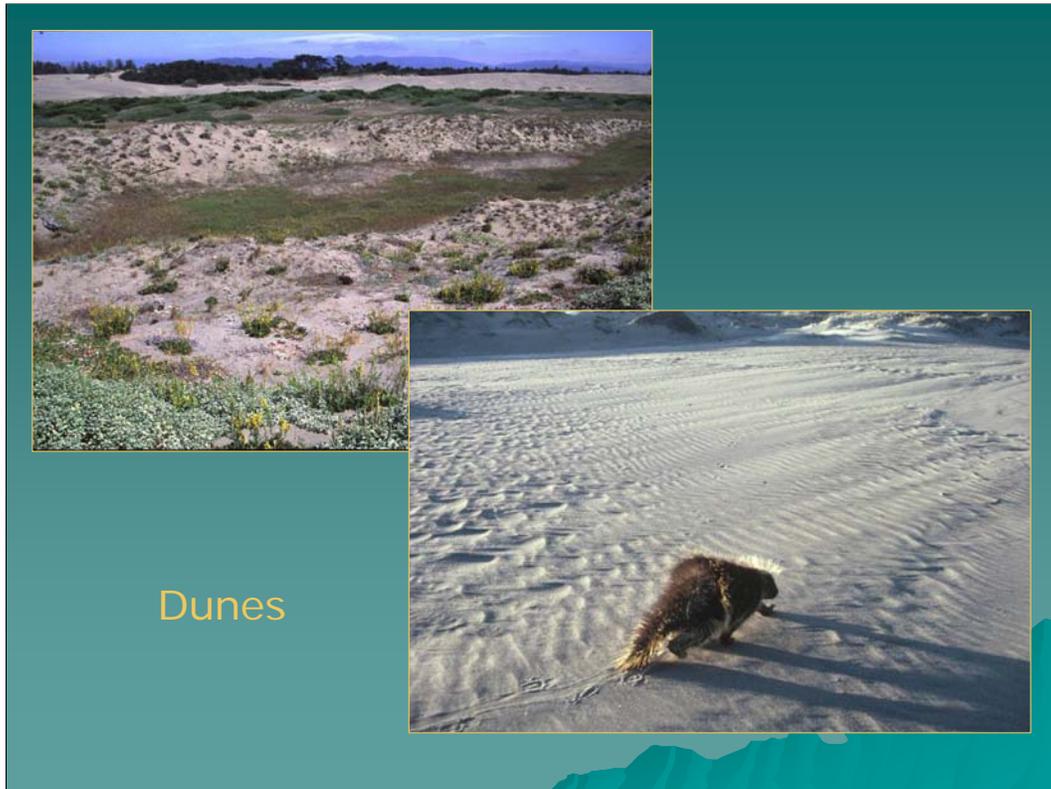
Map of HBNWR-Salmon Creek Unit



Grasslands have replaced much of the native saltmarsh and other wetlands around the Humboldt Bay area and Eel River bottoms. The grasslands on the refuge now sustain thousands of Aleutian cackling geese from October through April, and are also used by shorebirds, tundra swans, egrets, and herons.



The dune ecosystem conserved at the Lanphere and Ma-le'i Dunes Units protects one of the largest and most pristine remaining examples of native dune habitats on the Pacific coast of North America. The dunes are a dynamic landscape of shifting sand, weather-beaten conifers, and hardy, native plants.



Here is a closer look at the dunes, blanketed in beautiful native plants....and being crossed by a relatively rare visitor.



Riparian woodlands provide habitat for a great diversity of wildlife including songbirds, raptors (hawks and owls), small mammals like skunks, gray foxes, and voles, amphibians such as frogs and salamanders, and reptiles like snakes.



Saltmarshes are some of the most productive habitats on earth in terms of biomass produced. This plant material is constantly being contributed to adjacent bay waters and the complex energy web of the bay which includes mud, algae, eelgrass, worms, clams, oysters, crabs, fish, sharks, birds, seals, and humans to name just a few.

Saltmarsh is a special kind of wetland. It's the tidal wetland around the edge of a bay or estuary. It has mudflats and eelgrass beds at lower elevation, and reeds and rushes up higher. This is a very important habitat because it supports an amazing diversity of plants and animals. Saltmarsh is the most biologically productive habitat known! Unfortunately lots of folks used to think that saltmarsh was only good for breeding mosquitoes. People dredged, diked, and filled in saltmarsh to create farmland and build towns.



Intertidal mudflat and eelgrass beds occupy vast areas of the bay. Seemingly barren mudflats teem with life just beneath the surface. Plankton and algae anchor food webs of invertebrates, mollusks, crustaceans, fish, birds, and mammals, including humans. The intertidal flats of South Bay support approximately 2,000 acres of eelgrass, which are critically important to Pacific brant, other waterbirds, and the bay ecosystem.

Refuge Priorities

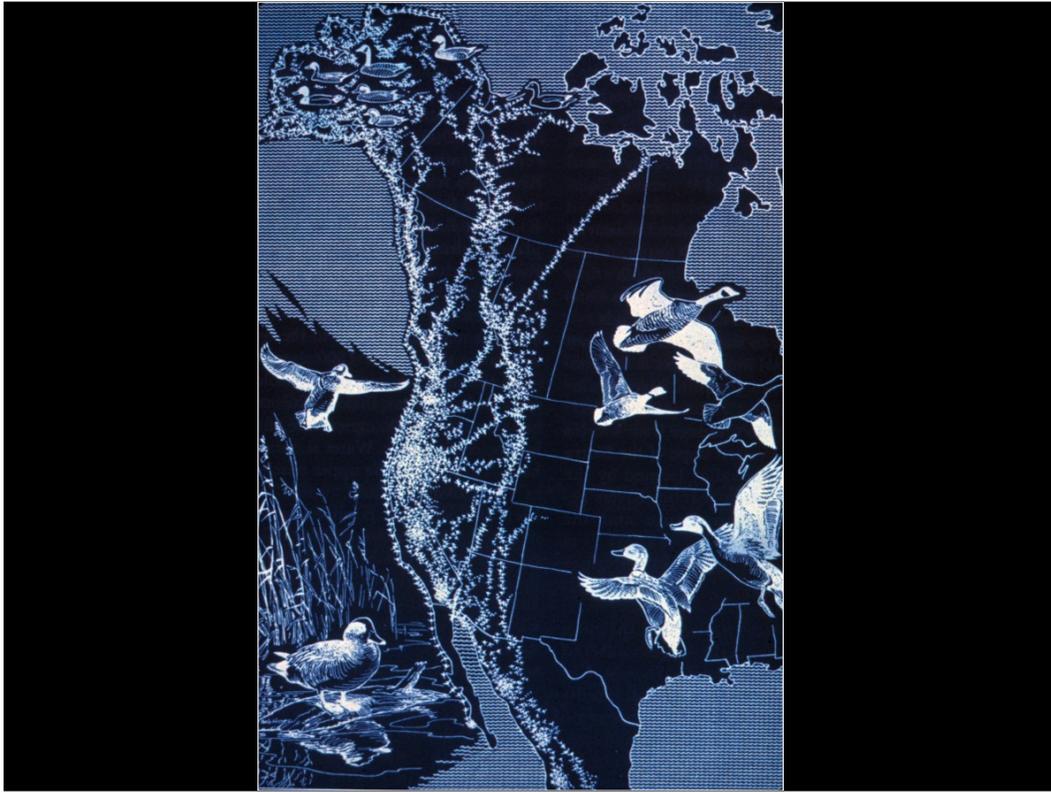
- ◆ Manage for migratory birds
- ◆ Conserve endangered species
- ◆ Restore and conserve habitat
- ◆ Research and monitor fish, wildlife and plants
- ◆ Provide environmental education
- ◆ Provide wildlife-dependent recreation opportunities



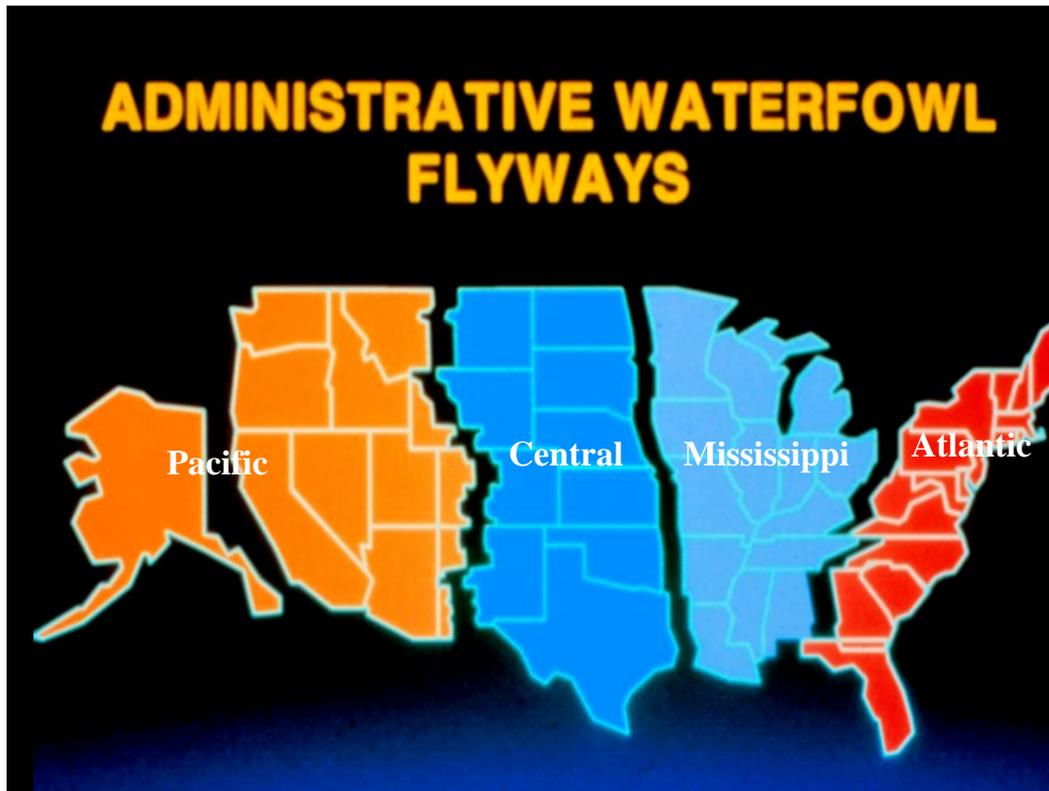
Migratory Birds



The Refuge lies along the Pacific Flyway, which is a migratory pathway for birds. Birds are drawn to the wetlands at the Refuge, where they stop, rest, and refuel during their migration. Tens of thousands of Aleutian cackling geese and shorebirds visit the Refuge during the fall and spring. Some migratory birds, such as tundra swans and many species of waterfowl, spend their entire winters here on the Refuge.



Pacific Flyway



Four Waterfowl Flyways



Of course, there was also an awareness of the bay area's importance to other migratory birds....

LOWER SALMON CREEK DELTA SALMONID HABITAT ENHANCEMENT OPPORTUNITIES

- Pacific Coast Fish, Wildlife and Wetland Restoration Association
- US Fish & Wildlife Service
Humboldt Bay National Wildlife Refuge
- Michael Love & Associates
- Graham Matthews & Associates

Funded by a Planning Grant from:
California Dept. of Fish and Game
Salmon Recovery Fund



The first of these 3 issues is fisheries. A refuge objective from the 1989 Mgt Plan was “to restore the lower end of Salmon Creek and to increase fish passage”. Some efforts were made towards this in the 90’s but since 2001 the refuge has been collaborating with Mitch Farro of PCFWRA and others to take the next steps....which are to.....

Project Goals and Objectives

1. Improve salmonid access to Salmon Creek.
2. Reduce potential for salmonid stranding.
3. Improve salmonid rearing habitats in lower Salmon Creek.

- Enhance salt marsh, mudflat, slough and estuary habitats
- Enhance freshwater wetland habitat
- Reduce sedimentation within lower channel
- Improve water quality



We think the first step to achieve these project goals will be to use new fish-friendly side-hinged tidegates to increase the tidal prism to some formerly diked off lands on the Salmon Creek Unit of the refuge.



(a) 1870

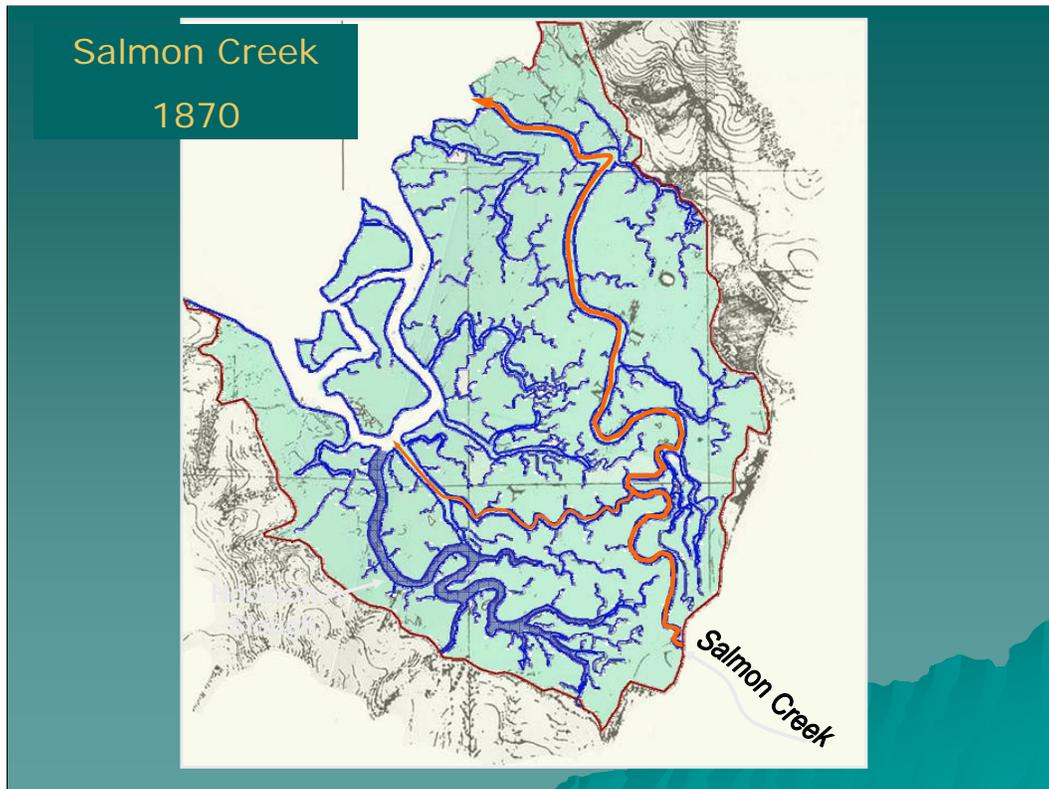
Approximate extent of saltmarsh within the Salmon Creek Delta in (a) 1870 and (b) 1993

(b) 1993

Challenges

- 90% of bay's tidal marsh is gone or converted
- 90% of remaining marsh is non-native *Spartina densiflora*
- Changes in bay topography
- Perception of value (fish vs. geese)
- Sea Level Rise ?



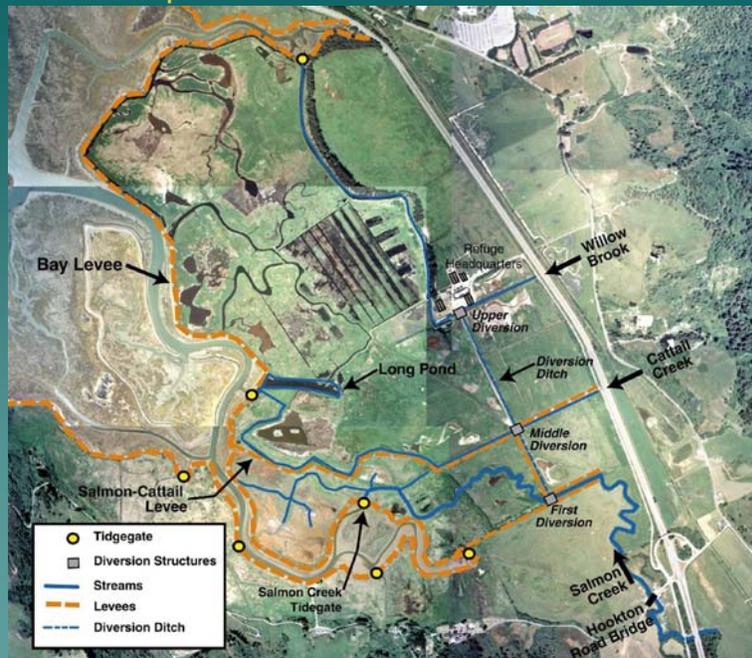


This is Salmon Creek as it was mapped in 1870. Salmonid populations then were probably quite healthy.

Since then humans have altered this watershed and all others around the bay significantly.

In fact, I wonder if what we're doing in many places is not restoration.....but habitat enhancement.

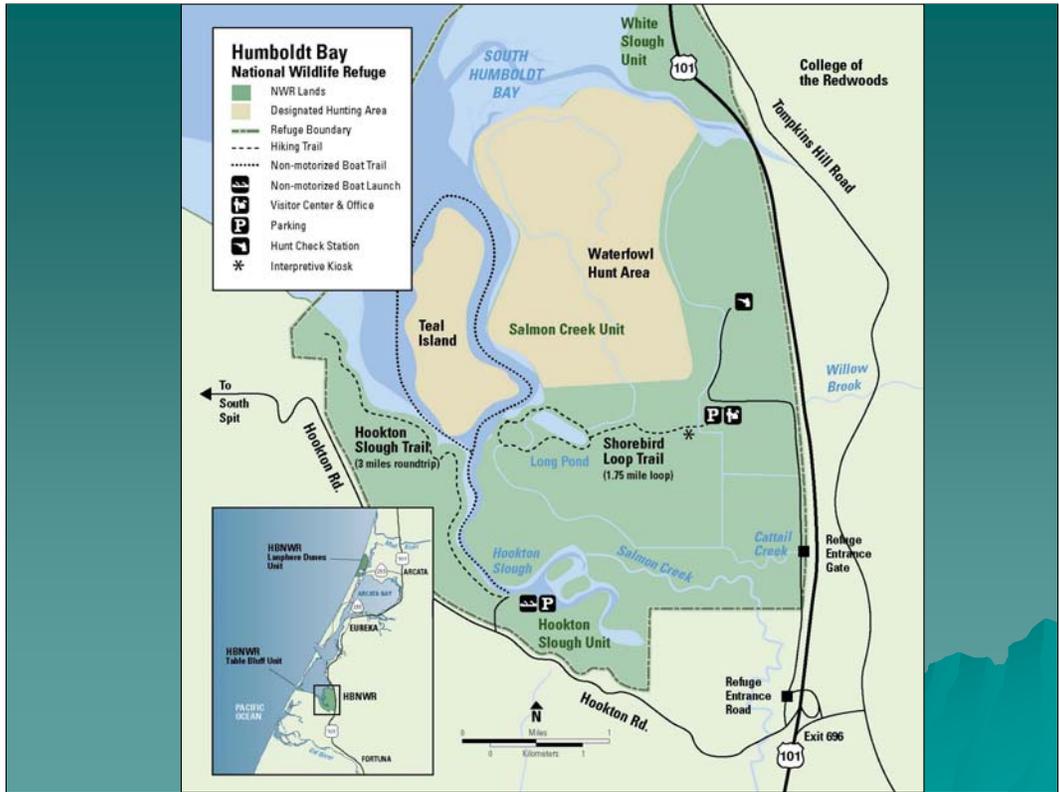
Figure 3.3 - Humboldt Bay National Wildlife Refuge Salmon Creek Unit site map.



Adaptive Management

Adaptive Management or (Enhancement of existing conditions?)

So, here is what we have now....and somehow we have to avoid impacting adjacent private landowners, flooding Hiway 101 or refuge structures, growing mosquitoes, etc, etc. This will require adaptive management.



Aleutian Cackling Geese: An Endangered Species Success Story

- ◆ Small subspecies of cackling goose
(*Branta hutchinsii leucopareia*)
- ◆ White neck ring
- ◆ Small bill
- ◆ 4-6 pounds
- ◆ From <800 in 1974 to >75,000 today



Here's an example of how HBNWR has played a role in endangered species conservation.

The Aleutian cackling goose is a small subspecies of Canada goose, about the size of a mallard duck. They are an endangered species success story. In the spring, they gather here to rest and feed on tender young grass shoots before flying northward to their breeding grounds.

These geese nest and breed on the Aleutian Islands in Alaska, and migrate south to spend the winter in California's central valley. The Refuge is an important staging area from January to April prior to their migration back to the Aleutians.

Other Canada Goose Subspecies



Aleutian



Dusky



Cackler



Western (honker)

Migration of Aleutian Cackling Geese

- ◆ Aleutian Islands
- ◆ Crescent City
- ◆ Humboldt Bay
- ◆ Colusa
- ◆ Sacramento Delta
- ◆ Los Banos
- ◆ Humboldt Bay, Crescent City, and Southwest Oregon

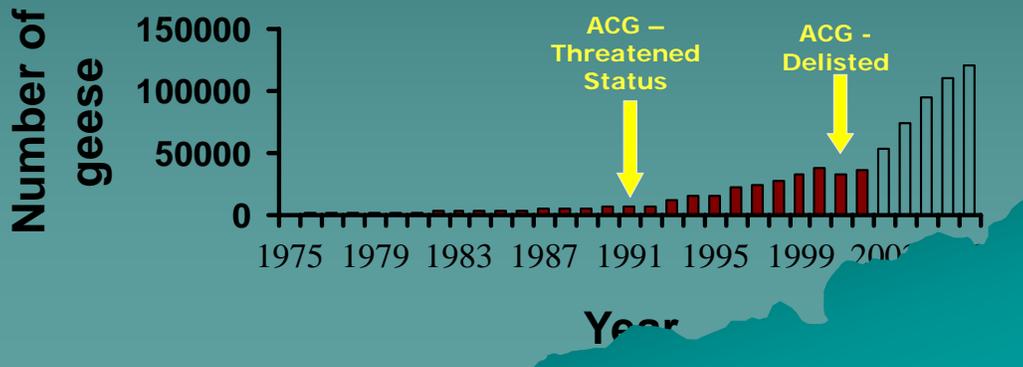


This population of geese was nearly wiped out in the late 1800 and early 1900's when fur farmers put Arctic foxes out on the Aleutian Islands. Over time FWS removed foxes and protected the geese on their wintering grounds. This formerly endangered goose population has rebounded from a population of less than 800 birds in 1974 to somewhere near 100,000 today!

The issue now is how many of these geese are enough, as they are impacting coastal ranchers between Eel River and New River in Oregon by feeding down spring pastures meant for cattle and sheep.

Population Trend 1975-2007

Aleutian goose population size



Suffice it to say that this growing goose population (~70K in 2004) is already significantly impacting local ranchers grass resources. And the way most of the ranchers see it is that these geese need to be eating grass on public lands, NOT private

Down listed 1991. Delisted 2001. Population is rapidly increasing...



Humboldt Bay owl's clover is an endemic plant (this is the only place it grows!) On California's state endangered species list.

Beach layia (endangered)

Humboldt Bay wallflower is another endemic plant, also endangered. Define endemic.

Beach layia (*Layia carnosa*)

Federally listed Endangered



The Refuge staff uses dikes and tidegates to manage the water levels within the Refuge. They keep enough water for year-round wetlands in some parts of the refuge, and allow seasonal wetlands to form. These wetlands provide habitat for many species of birds. The Refuge staff enriches available habitats by planting trees and maintaining short grass in the pastures, which is the preferred food of Aleutian cackling geese.



During the early to mid-1900's coastal residents and developers seeking to stabilize the shifting dunes planted non-native European beachgrass. This invasive plant halts the dunes natural movement and chokes out native dune plants evolved to thrive in the dynamic dune landscape. The Lanphere Dunes and Ma-l'el Dunes Units are a phenomenal example of native dune ecosystem, rich with diverse native plants and wildlife. But they have not always been this way.



The dunes used to be over-run with European beachgrass and other non-native plants. Restoration efforts have removed the beachgrass and allowed the native vegetation to come back over most of the dunes. Refuge staff, community volunteers, and the Friends of the Dunes collaborate to maintain and enlarge the restored portions.



Volunteer have contributed countless hours of hard work, pulling and digging invasive European beachgrass out of the dunes. Their tremendous efforts restore habitat for native dune plants, including several endangered species.

Research and Monitoring



We collaborate with many partners to conduct research and monitoring, including other FWS offices (Arcata FWO), other state and federal agencies (BLM, NOAA, CDFG, CalTrans, CDC), the Wiyot Tribe, private landowners (Aleutian Goose Working Group), County (Sheriff's Work Alternative Program), and as shown here in the upper right, Humboldt State University faculty and students.

6 Priority Wildlife-Dependant Public Uses

As established by the National Wildlife Refuge Improvement Act of 1997

- ◆ Environmental Education and Interpretation
- ◆ Wildlife Observation and Photography
- ◆ Hunting and Fishing

Not all refuges are open to the public. Nor are all parts of those refuges open to the public. These priority use uses must be considered, but must not materially interfere with or detract from the purpose for which the refuge was established. Humboldt Bay NWR allows opportunities for all six uses.

Environmental Education and Interpretation



You can visit the Refuge as a class, group, family, or individual. You can enjoy our interpretive exhibits and trails as you learn about wildlife and our local ecosystems. School and community groups come out for fun and educational field trips at the Refuge.



Wildlife Observation



During your visit to the Refuge you can enjoy observing wildlife as you hike the trail or paddle down the slough.

Wildlife Photography

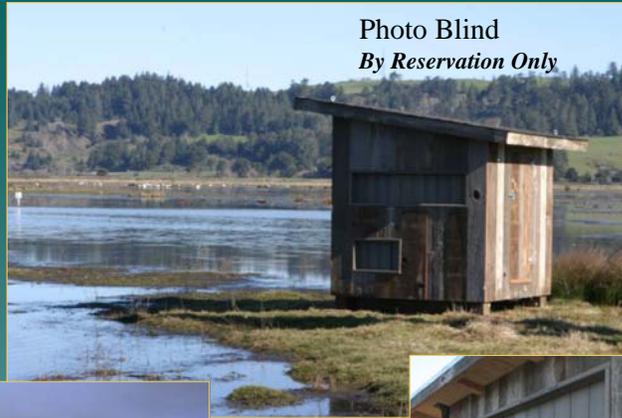


Photo Blind
By Reservation Only

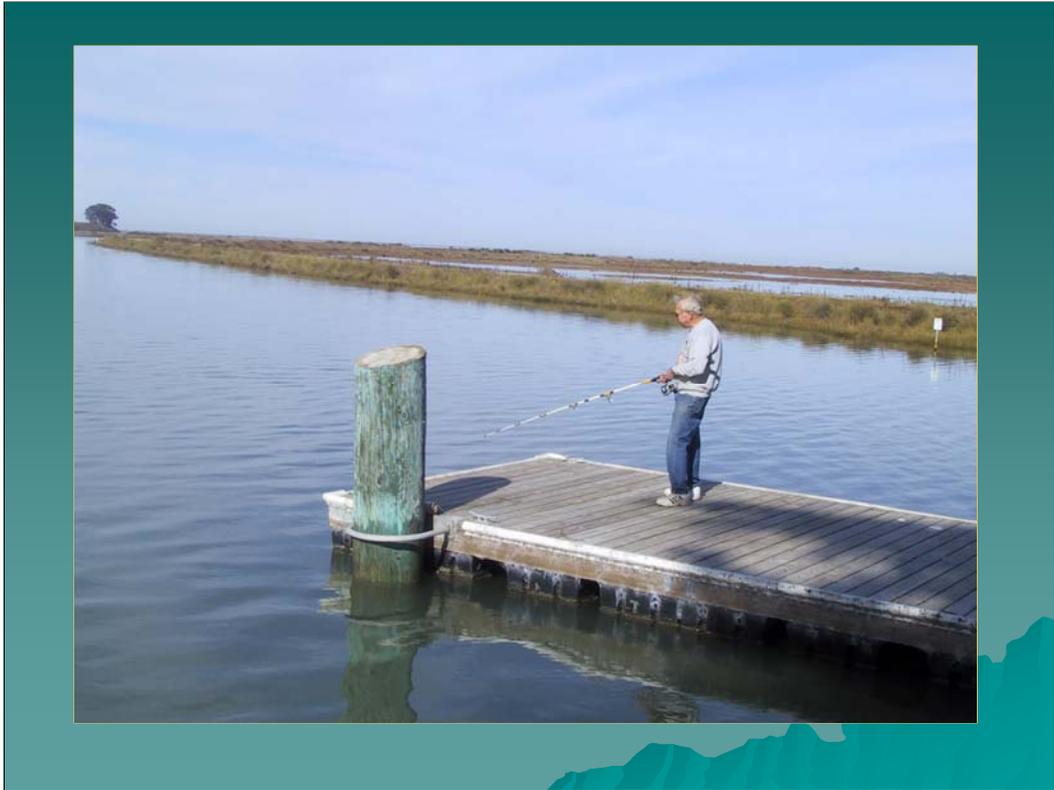


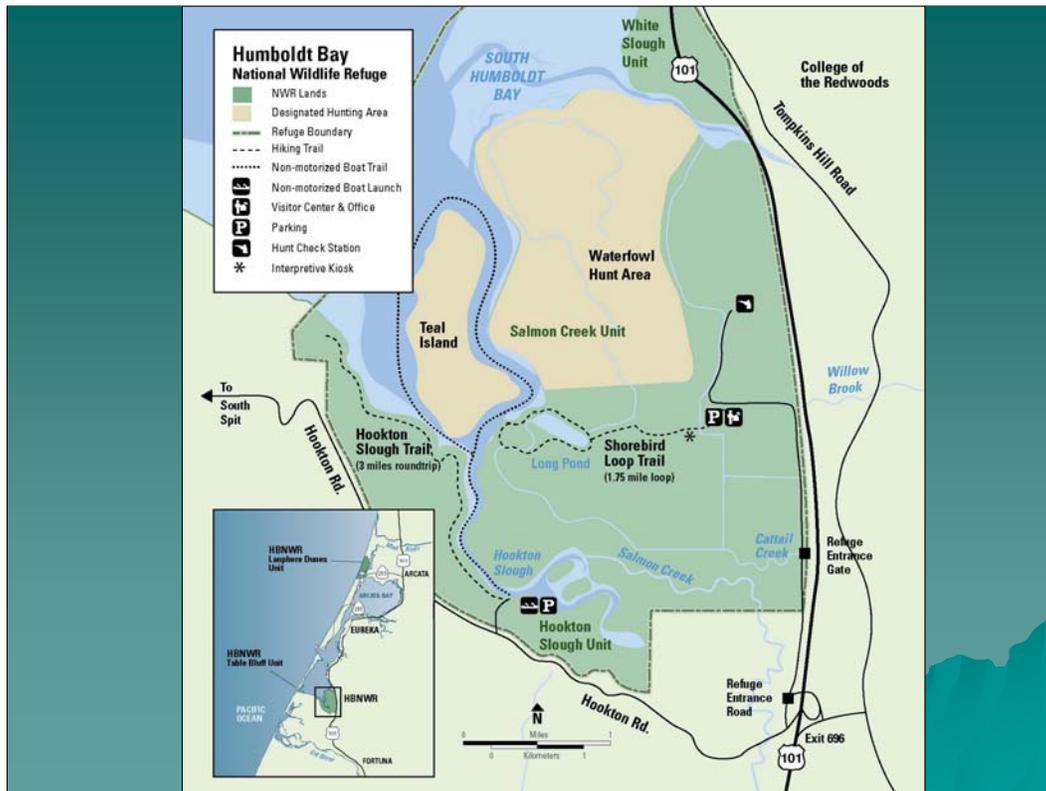
You can get great shots of wildlife from our photoblind, which was built by talented Refuge volunteers and members of our refuge Friends Group.

Please talk to a staff member if you think you might be interested in reserving the photoblind.

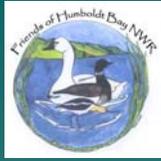


You can also enjoy waterfowl hunting here at the Refuge. Hunting is an approved “wildlife dependent use” that occurs on many refuges nationwide. On the Salmon Creek Unit we have a regulated waterfowl hunt two days per week from late October through January, this amounts to ~30 days per year. Now, we know that not everyone agrees hunting should be allowed period, much less on a wildlife refuge, but it is important to be aware that hundreds of thousands of acres of fish and wildlife habitat have been preserved with money generated from hunters through the annual sales of duck stamps and taxes on hunting and fishing equipment.





Try to manage all these uses in conjunction with the needs of wildlife in such a small place, gets complicated and complex...

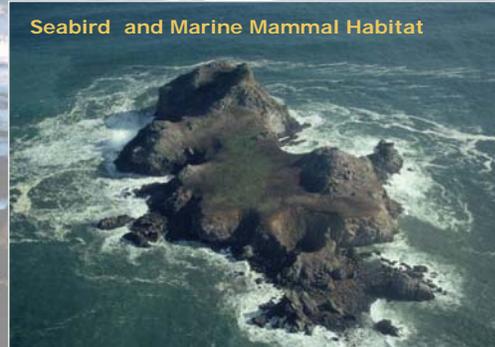


Friends of Humboldt Bay NWR

- ◆ Newly formed group
- ◆ Special interests in environmental education, community outreach and volunteer recruitment
- ◆ Have installed Kid's Corner
- ◆ For more information, please call refuge @ 733-5406

Castle Rock National Wildlife Refuge

(est. 1980)



Seabirds

12 species nest on Castle Rock NWR

Cavity nesters: Tufted puffin, Cassin's auklet, Rhinoceros auklet, Leach's storm-petrel, Fork-tailed storm-petrel, Pigeon guillemot

Open nesters: Western gull, Common murre, Brandt's cormorant, Pelagic cormorant, Double-crested cormorant, Black oystercatcher



twelve species of seabirds breed on Castle Rock National Wildlife Refuge. Half of the species are cavity nesters, making their nest in rock crevices or in burrows they dig in the soil. The other half are considered open nesters laying their eggs on bare rock as in the case of the common murre or building up a small open cupped nest on the rock or rock ledges as in the case of Brandt's cormorant.

Rhinoceros Auklet



Rhinoceros Auklets are colonial burrow nesters. Both male and female get horn on bill during breeding season and then it shrivels up. They feed on schooling fish.

Murres and Cormorants





Aleutian cackling geese also use Castle Rock NWR.

Marine Mammals

5 Species of marine mammals use Castle Rock NWR as either a haul out site or to rear their pups:

- ◆ Steller sea lions
- ◆ Elephant seals
- ◆ Northern fur seals
- ◆ Harbor seals
- ◆ California sea lions



Stellar Sea Lion (male)

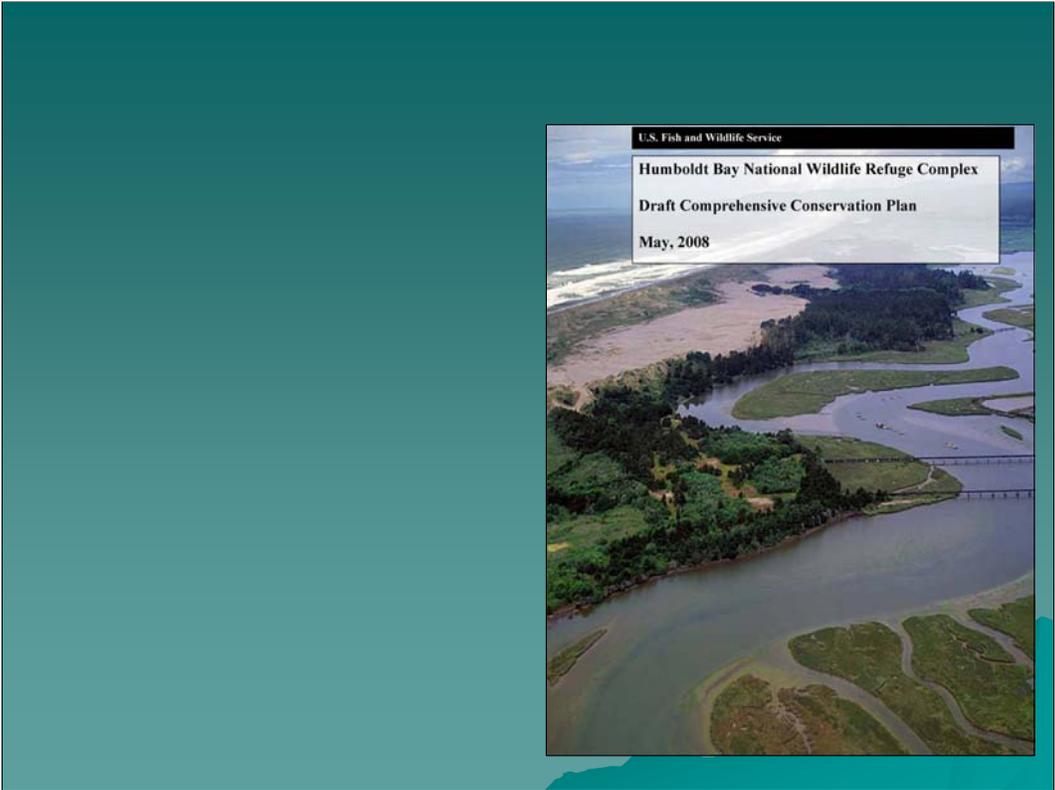


Stellar sea lions and pups

Public Use

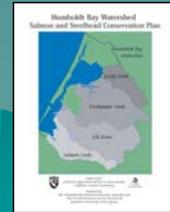


Castle Rock NWR is closed to the public but many state and federal lands on the California and Oregon coast provide stunning views of the rocks and islands as seen here at Face Rock in Bandon.



Why do we prepare a CCP?

- ◆ Ensures management aligns with:
 - Purposes
 - Mission/goals
 - Policies
- ◆ Provides a vision for the Refuge
- ◆ Facilitates system management
- ◆ Provides clarity and support to long term operational and project needs
- ◆ Documents a rationale for actions





How Can Students Get Involved with the Refuge?

- ◆ Come Visit the Refuge
- ◆ Participate in CCP Process
- ◆ Research
- ◆ Richard J. Guadagno Scholarships
- ◆ Volunteer
- ◆ Seasonal Job Opportunities

Research Needs

HUMBOLDT BAY NWRC RESEARCH NEEDS (2005)

South Bay Refuge Units and the Bay

1. Swan use and behavior on the Salmon Creek Unit
2. Survey of aquatic invertebrates on the Salmon Creek unit
3. Raptor use of the Salmon Creek unit
4. Historical deer use and behavior on the Salmon Creek unit
 - a. Mammal inventory of South Bay units (track plates)
5. Waterfowl food habits on the Salmon Creek unit
6. Aleutian Golden Plover use of the Salmon Creek area
7. Shorebird use of South Bay area and Tulea bottoms
8. Vegetation response to invertebrate replacements on the SCU
9. Fish response to invertebrate replacement @ SCU
10. Effects of trawl use on selected bird species
11. Status of waterbird rookeries on Table Bluff
12. Vegetation response to three management on Crow's Spit (SLM)
13. Status of DOC colony on Teal Island
14. Effects of nesting Canada geese on other waterfowl
15. Nesting success of birds in "native" species vs. *Baccharis* stand on refuge
16. Barn owl roost species. Pellet analysis.
17. Effects of denning/nesting with regard to plant/mammal species
18. Wildlife disturbance relative to public use activities (mammals and birds)
19. Public use surveys (for Salmon Creek, Hookton Slough, and Maile's Dunes Units)
20. Neotropical migrant resident passerine studies (could be tied to MAPS station on Refuge)
21. Data synthesis in prep for Comprehensive Conservation Planning (CCP)
22. CCP projects
23. Amphibian study (could be tied to abnormal frog surveys conducted by Jamie Bettaso)
24. Hunter harvest survey (as it relates to species taken and activity as a public use)
25. Brant studies
26. Immature study (*Zonotrichia japonica*, in conjunction with Humboldt Bay Cooperative Relgrass Project)
27. Soils study (relative to grazing, bird use, etc.)

Lamphere Dunes Unit:

1. *Spartina densiflora* primary productivity relative to native salt marsh plants and algae
2. Impacts of *Salicornia* logdovii introduction to Humboldt Bay salt marshes
3. Role of soil biotic crusts in dune succession
4. Dune verte ecology (many aspects, including invertebrates and algal surveys, role of algae in succession, vertebrate wildlife use, impacts of invasive plant species)
5. Changes in dune vegetation since 1970s based on historical photos (GIS project requiring reconstruction of historic photos)
6. Ant ecology, *Formica* spp. as keystone species, effect on succession
7. Genetic study of *Casiprotectus chinensis* to determine whether native or introduced
8. Role of invertebrate/vertebrate herbivory in open dune communities (dune mat, dune swale)
9. Invasion ecology of exotic annual dune grasses
10. Vegetation study of dune forest on N. Spit (including characterization of understorey spp)
11. *Bryopitys* forest/ecology dune forests
12. Role of lichens in nutrient cycling of dune forest

Use as of February 2005

See insert of .pdf version

HUMBOLDT BAY NWRC RESEARCH NEEDS-FALL 2005

South Bay Refuge Units and the Bay:

1. Swan use and behavior on Salmon Creek Unit (SCU).
2. Survey of aquatic invertebrates on the SCU.
3. Raptor use of the SCU.
4. Blacktail deer use and behavior on the SCU.
5. Mammal inventory of South Bay unit (using track plates).
6. Waterfowl food habits on the SCU.
7. Aleutian cackling goose use of the Salmon Creek area.
8. Shorebird use of South Bay area and Loleta bottoms.
9. Vegetation response to tidegate replacement @ SCU.
- 9a. Fish response to tidegate replacement.
10. Effects of trail use on selected bird species.
11. Status of waterbird rookeries on Table Bluff.
12. Vegetation response to dune management on South Spit (BLM).
13. Status of double crested cormorant colony on Teal Island.
14. Effects of nesting Canada geese on other waterfowl.
15. Nesting success of birds in “native” riparian vs. Eucalyptus stand on refuge.
16. Barn owl prey species (pellet analysis).
17. Effects of discing/mowing with regard to plant/small mammal species.
18. Wildlife disturbance relative to public use activities (mammals and birds).
19. Public use surveys (for Salmon Creek, Hookton Slough, and Ma-le’l Dunes Units).
20. Neotropical migrant/resident passerine studies (could be tied to M.A.P.S station on refuge).
21. Data synthesis in prep for Comprehensive Conservation Planning (CCP).
22. CCP Projects.
23. Amphibian study (could be tied to abnormal frog surveys conducted by Jamie Bettasso).
24. Hunter harvest survey (as it relates to species taken and activity as a public use).
25. Brant studies.
26. Invasives study (*Zostera japonica*, in conjunction with Humboldt Bay Cooperative Eelgrass Project).
27. Soils study (relative to grazing, bird use, etc.).

North Bay (Dunes Units):

1. Is *Salicornia bigelovii* competing with the rare saltmarsh plant’s (*Castilleja ambigua ssp. humboldtiensis*, *Cordylanthus maritimus ssp. palustris*) host or can it become a host for the rare species?
2. Applied research for removal of invasive species in the dune swales.
3. Impacts of invasive species on dune swales.
4. Invasion ecology of exotic annual dune grasses.
5. Changes in dune vegetation since 1940’s based on historic photos (GIS project requiring rectification of historic photos)
6. Ant ecology, dune mat (role as keystone species, effect on succession)

Scholarship Opportunities



Richard J. Guadagno Memorial Scholarship

Applications Available
Fall Semester 2007 to:
College of the Redwoods Students
interested in pursuing a career
in Natural Resources / the Sciences

One \$500 Scholarship





Richard (Rich) J. Guadagno
September 26, 1962 - September 11, 2001

Rich worked for the U.S. Fish and Wildlife Service for 17 years and devoted his life to the conservation of natural resources. He was Refuge Manager of the Humboldt Bay National Wildlife Refuge from March 12, 2000 to September 11, 2001. On September 11th, Rich's plane, United Airlines Flight 93, was hijacked by terrorists and crashed in rural Pennsylvania, killing everyone on board. Rich died as a hero on Flight 93, and with the other passengers and crew prevented further tragedy at the cost of their lives.

In an effort to sustain the legacy of Rich's commitment to resource conservation, a scholarship fund was created in his honor. This scholarship is made possible through the generous donations of many individuals who cared about Rich and matched by the National Fish and Wildlife Foundation (NFWF).

Selection Criteria Include:

- Letter of Application (essay format);
- Résumé;
- Two Letters of Recommendation;
- Transcripts.

Applications Available September 11, 2007:

By Email: Shannon_Smith@fws.gov

Deadline for Submission of Application Materials: December 1, 2007

Scholarship Award Announced: Spring Semester 2008



Richard J. Guadagno Memorial Scholarships

Applications Available
Fall Semester 2007 to:
Humboldt State University
Juniors, Seniors, and Graduate Students
with a Declared Major within the
College of Natural Resources and Sciences

**One Undergraduate (\$1,000)
and
One Graduate (\$2,000)**





Richard (Rich) J. Guadagno
September 26, 1962 - September 11, 2001

Rich worked for the U.S. Fish and Wildlife Service for 17 years and devoted his life to the conservation of natural resources. He was Refuge Manager of the Humboldt Bay National Wildlife Refuge from March 12, 2000 to September 11, 2001. On September 11th, Rich's plane, United Airlines Flight 93, was hijacked by terrorists and crashed in rural Pennsylvania, killing everyone on board. Rich died as a hero on Flight 93, and with the other passengers and crew prevented further tragedy at the cost of their lives.

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Selection Criteria Include:

- Graduates-Thesis/Project Proposal (Must be Reviewed by Major Advisor);
- Undergrads-Senior Thesis/Indep. Study Proposal (Must be Reviewed by Major Advisor);
- Preference will be given to students submitting proposals with potential to contribute to studies in the following locations, respectively: Humboldt Bay National Wildlife Refuge Complex, Humboldt Bay and Associated Watersheds, Humboldt County, California, U.S.;
- Letter of Application (essay format);
- Résumé;
- Two Letters of Recommendation;
- Transcripts.

Applications Available September 11, 2007 :

By Email: Shannon_Smith@fws.gov

Deadline for Submission of Application Materials: December 1, 2007

Scholarship Awards Announced: Spring Semester 2008

Current Volunteer/ Job Opportunities

- ◆ Assist the refuge by volunteering in variety of areas such as: education/interpretation; biology; maintenance; administrative assistance
- ◆ Seasonal (paid) job opportunities: YCC Crew Leader; biological aides; visitor services assistants; contractors for biological work at Lanphere and Ma-le'I Dunes Units
- ◆ Housing available (bunkhouse on Salmon Creek Unit of Refuge)



Thank You For Your Time!
Any Questions???
Please email:
shannon_smith@fws.gov

