

00:30 to: *Julia West*  
Bruce - how much damage from Sandy?

00:37 to: *Sarah Crowley*  
Welcome Lynn

00:48 to: *Bruce Taterka*  
I'm in the NJ Highlands, luckily, about 40 miles inland but the shore is devastated.

04:24 to: *Sarah Crowley*  
Hi! Please let us know what you teach (subject or age level) and where you are :)

05:09 to: *Sarah Crowley*  
Janet and I are here in Fairbanks Alaska, working on the PolarTREC program.

05:22 to: *Bruce Taterka*  
I teach 11th & 12th grade AP & IB Environmental Science at Mendham H.S. in Mendham, New Jersey.

05:52 to: *Sarah Crowley*  
Perfect, we can hear you just fine, Dr. Burns

06:11 to: *alex eilers*  
Alex Eilers - PolarTREC teacher with the Weddell seal project. I live in Memphis and work at the Pink Palace Museum!

06:19 to: *Julia West*  
I teach HS sciences to homeschooled kids all over the world through correspondence (Oak Meadow School). I live in the Adirondack Mts of NY

06:43 to: *Patricia Alexandra da Cruz Fialho Azinhaga*  
I teach 9th and 11th grade Life and earth sciences. Today I'm alone because it is a holiday here in Portugal

07:14 to: *Carmen Field*  
Carmen Field here in at the Alaska Islands & Ocean Visitor Center in Homer, AK. I teach marine science and often lead programs on marine mammals. I've also been lecturing about pinnipeds onboard ships

07:14 to: *Carmen Field*  
in the Antarctic for over 20 years. :)

07:35 to: *Janet Warburton*  
Wow! That sounds like a fun job, Carmen.

08:01 to: *Sarah Crowley*  
For those listening outside the US - let us know if she is speaking too quickly.

08:13 to: *Julia West*  
That is interesting, Carmen!

10:00 to: *fosheereed #2*  
Lynn Reed here. I'm a mathematics teacher from Richmond, Virginia, now serving as an Einstein Fellow in NSF's Polar Programs. No students with me today (but I'm actively encouraging my school to participate in these webinars)!

10:00 to: *fosheereed #2*  
participate in these webinars)!

10:19 to: *Sarah Crowley*  
Please feel free to ask questions here.(y)

10:25 to: *Janet Warburton*

Welcome Lynn :)

11:13 to: *Janet Warburton*

They look like very content on that ice.

11:59 to: *Bruce Taterka*

Do the seals let you come right up to them to take pictures and tag them?

12:29 to: *Michelle Shero*

they don't have land predators. so these guys do let us approach them much more so than other seal species might

12:30 to: *Janet Warburton*

Great question Bruce. Michelle, Linnea, and Alex can hopefully answer them as we go along.

12:38 to: *Janet Warburton*

Like that! :D

13:06 to: *alex eilers*

They are amazingly approachable. Yes - I walked right up to most and snapped several pics.

15:15 to: *alex eilers*

I actually wrote a blog on seal temperament - it was posted on Jan. 24, 2012. Check that out as well.

15:52 to: *Janet Warburton*

That's a big tag! What happens when a predator eats the seal and the tag? Do they spit it out? :)

16:44 to: *Patricia Alexandra da Cruz Fialho Azinhaga*

It is easy to put the tags on seals?

16:47 to: *Bruce Taterka*

What are their predators? Orcas? Leopard seals?

17:31 to: *alex eilers*

The tags we used were not that big - but I have that same question as well. Unfortunately, I'm not sure there is any detail or data on that/

18:19 to: *Janet Warburton*

Oh yeah. We'd love the video!

18:23 to: *Linnea Pearson*

main predators are orca, they are the same size as leopard seals, so I don't believe they are a prey item

18:44 to: *Michelle Shero*

it is fairly easy to tag the seals. we use 5 minute epoxy and mesh to attach it to the fur. The hardest part is keeping the epoxy warm enough!

19:29 to: *Linnea Pearson*

since the seals are so big, the orca would probably avoid eating the tag- you can't swallow a 450kg animal whole!

19:59 to: *Bruce Taterka*

I bet the pups would make a nice snack

20:09 to: *Janet Warburton*

:)

20:17 to: *alex eilers*

They are way too cute!!! ;-)

20:26 to: *Michelle Shero*

YES they are!

20:52 to: *Sarah Crowley*

nice "Bruce".. that is the name of the scary shark in Nemo.. so..

21:05 to: *Carmen Field*

What is the maximum depth you're aware of that a Weddell Seal has been recorded diving to?

21:08 to: *Julia West*

Why do you think there are so many more males? What happens to the females?

21:14 to: *Bruce Taterka*

just sayin'

22:50 to: *Michelle Shero*

our seals have gone to about 1000m, their depth is often constrained by the seafloor. So I'm not entirely sure of the max recorded depth. The max recorded duration is 82 minutes

22:58 to: *alex eilers*

I'm looking up the max depth - but they have been recorded to 'hold their breath' for about 90 min.!

23:34 to: *Patricia Alexandra da Cruz Fialho Azinhaga*

During the winter the seals will keep the breathing holes open?

23:57 to: *Michelle Shero*

yes! they often ream the holes with their teeth to keep them open

23:58 to: *Linnea Pearson*

yep, they use their teeth to scrape the ice to maintain the breathing holes

24:24 to: *Carmen Field*

Thanks Michelle and Alex. :)

26:28 to: *alex eilers*

Check out this video of the seals maintaining their breathing holes <http://www.youtube.com/watch?v=ADekzAozkuA>

27:14 to: *Bruce Taterka*

How do you get them back?

27:41 to: *Linnea Pearson*

the seals are also tagged with a VHF tag, so the team listens for them with a radio receiver

27:45 to: *Michelle Shero*

we re-locate our animals again in October. They all have a VHF tag to help us "hear" them if they are nearby

28:13 to: *Linnea Pearson*

we also have help from another seal group who do surveys of the entire population- they have found a lot of our 'local' animals for us

28:24 to: *Sarah Crowley*

Can you please slow down a little Jennifer? Thank you.

28:39 to: *Linnea Pearson*

we just ask them to look for seals with 'hats'

29:24 to: *Patricia Alexandra da Cruz Fialho Azinhaga*

How long the breathing holes remain open?

29:50 to: *Linnea Pearson*

if the seals actively maintain the breathing hole, it can stay open all winter

30:00 to: *Michelle Shero*

As long as the seals actively scrape them. They'll close up very quickly (especially over winter) if not maintained

30:10 to: *Linnea Pearson*

unless the ice changes in some way to block the hole completely

30:34 to: *Sarah Crowley*

Thanks to all for the questions, and the great answers!

31:10 to: *alex eilers*

The seals must maintain their breathing hole by scraping their teeth against the ice. We saw this happen several time.

31:13 to: *Janet Warburton*

hold on jennifer.

31:26 to: *Janet Warburton*

we lost you in Fairbanks

31:45 to: *alex eilers*

Yes

31:46 to: *fosheereed #2*

Yes

31:47 to: *Bruce Taterka*

Yes.

31:47 to: *Linnea Pearson*

yes

31:49 to: *Carmen Field*

yes

31:52 to: *Janet Warburton*

Alex, are you able to hear us?

31:57 to: *alex eilers*

Yes

32:11 to: *Concetta Young*

yes

32:36 to: *Carmen Field*

I'm on the phone and can't hear Jennifer.

32:44 to: *Concetta Young*

I have no sound

32:54 to: *Sarah Crowley*

yes. sorry

32:54 to: *Carmen Field*

Yes

32:54 to: *Patricia Alexandra da Cruz Fialho Azinhaga*

So isn't easy find a breathing hole in winter?

32:56 to: *Concetta Young*

yes

32:56 to: *alex eilers*

OK

32:58 to: *Patricia Alexandra da Cruz Fialho Azinhaga*  
yes

33:04 to: *Janet Warburton*  
Sorry about that....

33:23 to: *Janet Warburton*  
People on the phone...we hope you all are there :)

33:37 to: *fosheereed #2*  
How long does a Weddell seal live?

34:03 to: *Michelle Shero*  
They are long lived mammals. The population group down here just found a 29 year old female who even had a pup this year

34:13 to: *alex eilers*  
I think the oldest one we saw was in its mid 20's

34:23 to: *Linnea Pearson*  
average life span is 15 years, but as Michelle said, they can live much longer

34:45 to: *Julia West*  
Looks warm out!

35:06 to: *Julia West*  
Did you say \$6000?

35:09 to: *Linnea Pearson*  
yes!

35:17 to: *Julia West*  
wow

35:22 to: *alex eilers*  
They are very expensive!

35:23 to: *Patricia Alexandra da Cruz Fialho Azinhaga*  
WOOWWWW

35:25 to: *Linnea Pearson*  
thats why we really like to get the tags back, they can be refurbished and used in another study

35:26 to: *Michelle Shero*  
It's ~\$7,000 per tag. And then another 3 or 4,000 for satellite time

35:57 to: *Julia West*  
per tag?

36:02 to: *alex eilers*  
Yes

36:05 to: *Michelle Shero*  
Yep

36:08 to: *Concetta Young*  
What is the gestation period of a seal?

36:25 to: *Linnea Pearson*  
the satellite time is per year for lots of tags, but \$7000 for one tag

36:31 to: *Julia West*  
OK

36:34 to: *Linnea Pearson*  
gestation period is 9mo

36:37 to: *Michelle Shero*  
Gestation is about 9 months. however, seals are unique in that they have delayed implantation

36:52 to: *Janet Warburton*  
The price of the seal tags is similar to what other sat. tags costs for other animals as well. That's why scientists are very eager to retrieve them :D

37:06 to: *Michelle Shero*  
so the breeding season occurs ~ november, but the embryo doesn't implant for a few weeks to months. So that's why pups are born at the same time each year

37:13 to: *Julia West*  
Do they delay it until they are ready? Implantation that is - can they control it?

37:28 to: *Bruce Taterka*  
I have two students here who want to know if the seal loses its fur when you take the tag off

37:41 to: *Michelle Shero*  
Julia- that's our next project : )

37:41 to: *Linnea Pearson*  
yes, the control implantation, how they do that is part of our next study

37:50 to: *Julia West*  
cool

38:01 to: *Patricia Alexandra da Cruz Fialho Azinhaga*  
so interesting

38:06 to: *Sarah Crowley*  
Science is so cute.

38:15 to: *Linnea Pearson*  
they do lose the hair right under the tag when its removed, but when the molt in January, the hair grows back

38:36 to: *fosheered #2*  
Do you ever follow the same seal for more than one season?

38:41 to: *Janet Warburton*  
that's great!

39:03 to: *Michelle Shero*  
We've seen a few the following year. But we haven't tagged any 2 years in a row

39:19 to: *Janet Warburton*  
If you haven't been to their website that shows this tracking data, you should check it out!

39:24 to: *Janet Warburton*  
it's great to watch them.

40:03 to: *alex eilers*  
It is at [seaturtle.org](http://seaturtle.org). Then search for Weddell seals 2012

41:04 to: *Sarah Crowley*  
Here is the animation: <http://www.youtube.com/watch?v=q9yBMiFfjY>

41:23 to: *Sarah Crowley*  
or available through PolarTREC: <http://www.polartrec.com/resources/video/weddel-seal-movements>

41:36 to: *Janet Warburton*  
Here's the link to the tracking site: [http://www.seaturtle.org/tracking/?project\\_id=707](http://www.seaturtle.org/tracking/?project_id=707)

42:48 to: *Sarah Crowley*  
We are just about ready for live questions, if you want to ask something

44:46 to: *Janet Warburton*  
we hear you now...

45:59 to: *Janet Warburton*  
Okay Lisa, ask your question

45:59 to: *Sarah Crowley*  
Go ahead Lisa

46:02 to: *Janet Warburton*  
the mic is open

46:04 to: *Patricia Alexandra da Cruz Fialho Azinhaga*  
I didn't hear the answer of Julia question

46:17 to: *Jenn.M.Burns*  
The human population on base is 73% male, the seal population is about 45% male & 55% female  
- males don't live quite so long, so while there are 50:50 at birth, more females survive

46:22 to: *Janet Warburton*  
Lisa, we can't hear you.

46:34 to: *Patricia Alexandra da Cruz Fialho Azinhaga*  
ok thank's

46:44 to: *Alessia Cicconi*  
may be I did not understand but is the satellite on the head irritating for the seals and what about the glue when it is removed?

46:51 to: *Jenn.M.Burns*  
I can't hear the questions, but if you type the question I can answer

47:30 to: *Janet Warburton*  
yes

48:04 to: *Janet Warburton*  
Does anyone else have questions that they want to ask live?

48:17 to: *fosheereed #2*  
Jenn: can you tell me more about what the ODU collaborators are looking at? Are these mathematical models they are working on?

48:33 to: *Sarah Crowley*  
Great question Lynn

50:16 to: *Julia West*  
ODU?

50:38 to: *Michelle Shero*  
old dominion university

50:43 to: *Julia West*  
thanks

50:54 to: *fosheereed #2*  
Very cool, thanks!

50:55 to: *alex eilers*  
Old Dominion University

51:02 to: *Linnea Pearson*  
Old Dominion University

51:04 to: *Concetta Young*  
I thought that it was agreed upon internationally that Antarctica was reserved for science and that the human impact worry is with the Arctic. Why are there commercial fishing boats? Is that a water

51:04 to: *Concetta Young*  
versus land difference?

51:29 to: *Julia West*  
Will you be coming back to do some of this same research in future years?

51:47 to: *Bruce Taterka #2*  
Sorry - the microphone crashed my computer before. My question was whether you are learning anything about climate change from this study, or whether you expect to. Thanks.

51:57 to: *fosheereed #2*  
And how long have you been traveling to Antarctica?

53:11 to: *Patricia Alexandra da Cruz Fialho Azinhaga*  
I have read that In the summer seals find the breathing hole by sun light. How they find in the winter? They have to scratch all the breathing holes?

54:51 to: *Sarah Crowley*  
Hi Justin. We began about one hour ago, so we are wrapping up with questions at the moment.

55:11 to: *fosheereed #2*  
You may find this recent NYT article of interest: [http://www.nytimes.com/2012/10/29/opinion/a-chance-to-save-the-southern-ocean.html?\\_r=1&](http://www.nytimes.com/2012/10/29/opinion/a-chance-to-save-the-southern-ocean.html?_r=1&)

55:44 to: *Justin Moodie*  
Darn...I must have miscalculated the time change.

55:58 to: *Justin Moodie*  
Mexico changed last week, US changes this weekend, right?

56:59 to: *alex eilers*  
Yes - sorry you missed it but it will be archived

57:06 to: *Justin Moodie*  
OK, thanks.

58:19 to: *Carmen Field*  
I've seen in the Weddell Sea snow petrels eating snow saturated with spilled Weddell seal milk (dripped by nursing pups). Have you ever seen this in the Ross Sea?

58:44 to: *alex eilers*  
Interesting question!

58:48 to: *Patricia Alexandra da Cruz Fialho Azinhaga*  
I know this seal , eh eh eh it's the biggest

59:21 to: *Patricia Alexandra da Cruz Fialho Azinhaga*  
:)

59:45 to: *alex eilers*

And also the food you carry back to the lab

59:46 to: *Sarah Crowley*

ew. and awesome.

59:47 to: *Carmen Field*

Thanks, Jennifer!

59:57 to: *alex eilers*

Thanks everyone!!!

1:00:01 to: *Bruce Taterka #2*

Thank you!

1:00:02 to: *Michelle Shero*

and snowmachine goggles

1:00:23 to: *Concetta Young*

I need a clarification on the every bit of seal you can think of... left over carcasses

1:00:24 to: *Patricia Alexandra da Cruz Fialho Azinhaga*

Thank you

1:00:29 to: *Alessia Cicconi*

Thank you

1:00:30 to: *Julia West*

Interesting - thanks!

1:00:40 to: *fosheereed #2*

Thank you!

1:00:56 to: *alex eilers*

Yes - please join us!