



Evaluation Report
Population and Community Ecology
Consequences of Intraspecific Niche
Variation Working Group
Meeting 2: June 21-24, 2010

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July, 2010

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Executive Summary

Brief Synopsis of Event

This report is an evaluation of a NIMBioS Working Group entitled “Population and Community Ecology Consequences of Intraspecific Niche Variation Working Group” (Ecology of Niche Variation) which held its second meeting at NIMBioS June 21-24, 2010. NIMBioS Working Groups are chosen to focus on major scientific questions at the interface between biology and mathematics. NIMBioS is particularly interested in questions that integrate diverse fields, require synthesis at multiple scales, and/or make use of or require development of new mathematical/computational approaches. NIMBioS Working Groups are relatively small (10-12 participants, with a maximum of 15), focus on a well-defined topic, and have well-defined goals and metrics of success. Working Groups will typically meet 2-3 times over a two-year period, with each meeting lasting 3-5 days; however, the number of participants, number of meetings, and duration of each meeting is flexible, depending on the needs and goals of the group.

The second meeting of the Ecology of Niche Variation group comprised 15 participants, including organizers Daniel Bolnick (Section of Integrative Biology, University of Texas, Austin) and Volker Rudolf (Department of Ecology & Evolutionary Biology, Rice University). Three participants from the first meeting of the working group were not present at the second meeting, and two of the participants in the second meeting did not attend the first. Participants came from several universities across Austria, Canada, and the United States.

The first meeting of the Ecology of Niche Variation Working Group brought together ecologists, evolutionary biologists, mathematicians, and a marine biologist to facilitate the development of mathematical models to determine whether, and how, niche variation alters the dynamics of classical models of single-species, predator-prey, and community interactions. During the first meeting, the Niche Variation working group settled on a focal question that would bind together their various sub-projects: how do the dynamics familiar ecological models change when one incorporates realistic patterns of intraspecific variation? The group assembled a list of relevant models that have been published previously and devised a strategy to split up the work of reviewing this prior literature.

At the second meeting of the Ecology of Niche Variation Working Group, the participants continued their work on mathematical models to determine how niche variation alters the dynamics of classical models of single-species, predator-prey, and community interactions. The subgroups brought their results from models developed in the previous meeting to share and discuss with the entire group. The results are very close to manuscript format, and several of their studies are nearing the point of submission for publication.

For the third meeting, participants are planning to have drafted manuscripts for publication, as well as further results from their mathematical models to be analyzed and addressed.

Evaluation Design

An electronic survey aligned to the following evaluation questions was designed by the NIMBioS Evaluation Coordinator with input from the NIMBioS Director and Deputy Director:

1. Were participants satisfied with the Working Group overall?
2. Did the meeting meet participant expectations?
3. Do participants feel the Working Group made adequate progress toward its stated goals?
4. Do participants feel they have a good understanding about the work being done by other subgroups within the group?
5. Do participants feel they gained a better understanding of how the work of the various subgroups will tie together to reach the working group's goals?
6. What impact has the working group had on participants' research agendas?
7. Were participants satisfied with communication between group meetings?

The final instrument was hosted online via the University of Tennessee's online survey host mInterview. Links to the survey were sent to 13 Working Group participants on June 24, 2010 (organizers Daniel Bolnick and Volker Rudolf were not included in the evaluation). Reminder emails were sent to non-responding participants on July 1 and July 8, 2010. By July 15, 2010, 12 participants had given their feedback, for a response rate of 92%.

Highlights of Results

- Overall satisfaction with the Working Group was high among respondents, 100% of whom indicated they either agreed or strongly agreed that the Working Group was very productive and met their expectations.
- 92% of respondents thought the presentations were useful, and all thought that the presenters were very knowledgeable about their presentation topics.
- 100% of respondents agreed that participating in the working group meeting increased their understanding of the work being done in by others in the group.
- 92% of respondents agreed that participating in the meeting increased their understanding of how everyone's work would come together to achieve the goals of the group.
- 100% of respondents agreed that the format of the Working Group was very effective for achieving its goals.
- 100% of respondents said that the Working Group made adequate progress toward reaching its intended goals.
- 75% of respondents said that participating in the working had influenced their research agendas.
- 92% of respondents said they left this meeting with a good idea of what their contribution will be at the next meeting.

Conclusions and Recommendations

Overall, the Working Group was very successful in making progress toward its goals. Working Group respondents were satisfied with the meeting, indicating that it was a productive experience that met their expectations.

All respondents agreed that participating in the working group meeting increased their understanding of the work being done in by others in the group, and all agreed they better understood how everyone's work would come together to achieve the goals of the group. Most respondents indicated the most beneficial aspect of the working group was the group discussions, where details about the next steps for the group were worked out. Most respondents said they felt the expectations for the next working group meeting are clear, in the sense that they were leaving this meeting with a good idea of what they needed to accomplish before the next meeting.

All but one of the respondents indicated they had used the Wiggio for communicating with their group in some way, with the most common form of communication being uploading a file or reading a message to or from one or more group members. Almost all respondents who had used the Wiggio indicated that it was either "Very useful" or "Somewhat useful" for the purpose of communicating and/or collaborating with other members of the working group.

Nine respondents said that participating in the working had influenced their research agendas. Respondents said that being part of the working group has caused them to think about new ways of looking at problems that they were not previously aware of.

Some participants felt there were too many sub-groups within the group, and suggested either having longer meetings to enable members to work on more problems, or narrowing the foci of the group. Regarding group communications, several respondents indicated they would like the subgroups to utilize webinars between in- person meetings to keep everyone up to date on group progress.

Based on analysis of participant response data, the recommendations to NIMBioS and/or Working Group organizers are as follows:

The content and format of the working group appear to be on track for achieving the group's goals and do not appear to need any significant changes.

Consider asking participants to report at regular intervals the progress on their tasks via the Wiggio or email.

Working group organizers should continue to monitor group publications and products and encourage group members to report these to NIMBioS as they become available.

Ecology of Niche Variation Working Group Evaluation Report

Background

The Ecology of Niche Variation Working Group's second meeting comprised 15 participants, including organizers Daniel Bolnick (Section of Integrative Biology, University of Texas, Austin) and Volker Rudolf (Department of Ecology & Evolutionary Biology, Rice University) (See Appendix A). Participants came from several universities across Austria, Canada, and the United States.

NIMBioS Working Groups are chosen to focus on major scientific questions at the interface between biology and mathematics. NIMBioS is particularly interested in questions that integrate diverse fields, require synthesis at multiple scales, and/or make use of or require development of new mathematical/computational approaches. NIMBioS Working Groups are relatively small (10-12 participants, with a maximum of 15), focus on a well-defined topic, and have well-defined goals and metrics of success. Working Groups will typically meet 2-3 times over a two-year period, with each meeting lasting 3-5 days; however, the number of participants, number of meetings, and duration of each meeting is flexible, depending on the needs and goals of the group.

The first meeting of the Ecology of Niche Variation Working Group brought together ecologists, evolutionary biologists, mathematicians, and a marine biologist to facilitate the development of mathematical models to determine whether, and how, niche variation alters the dynamics of classical models of single-species, predator-prey, and community interactions. During the first meeting, the Niche Variation working group settled on a focal question that would bind together their various sub-projects: how do the dynamics familiar ecological models change when one incorporates realistic patterns of intraspecific variation? The group assembled a list of relevant models that have been published previously and devised a strategy to split up the work of reviewing this prior literature.

At the second meeting of the Ecology of Niche Variation Working Group, the participants continued their work on mathematical models to determine how niche variation alters the dynamics of classical models of single-species, predator-prey, and community interactions. The subgroups brought their results from models developed in the previous meeting to share and discuss with the entire group. The results are very close to manuscript format, and several of their studies are nearing the point of submission for publication.

For the third meeting, participants are planning to have drafted manuscripts for publication, as well as further results from their mathematical models to be analyzed and addressed.

Participant Demographics

Meeting participants were college/university faculty (86%) or postdoctoral researchers (14%). Primary fields of study for the eight participants included biological/biomedical sciences, mathematics, and marine sciences (Table 1).

Table 1. Participant fields of study and areas of concentration

Field of Study	Concentration	# Participants
Biological/Biomedical Sciences	Ecology	9
	Evolutionary Biology	1
Mathematics	Mathematical Biology	3
	Mathematical Ecology	1
Ocean/Marine Sciences	Marine Sciences	1

Participants represented 13 different institutions across Austria, Canada, and the United States. Within the U.S., five states were represented. Of the 13 different colleges/universities, all were classified as comprehensive (having undergraduate and graduate programs), and one was recognized as minority-serving.

The three females and eleven males (one of whom self-identified as being of Hispanic/Latino ethnicity) mostly self-identified racially as white (Figures 1 & 2).

Figure 1. Racial composition of program participants (n=15)

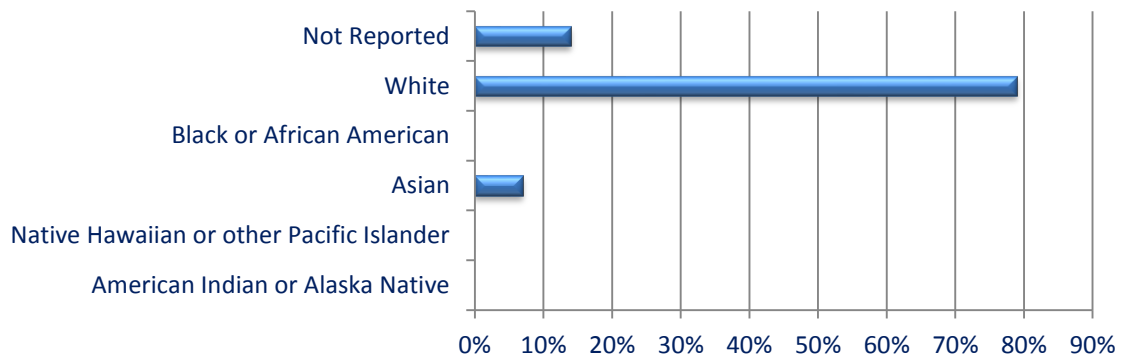
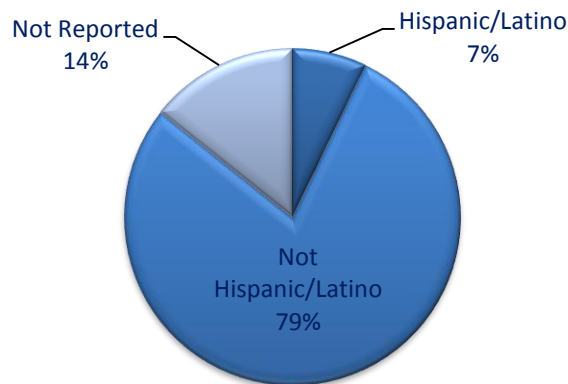


Figure 2. Ethnic composition of program participants (n=15)



Evaluation Design

Evaluation Questions

The evaluation of the meeting was both formative and summative in nature, in that the data collected from participants was intended to both gain feedback from participants about the quality of the current Meeting and also to inform future meetings. The evaluation framework was guided by Kirkpatrick's Four Levels of Evaluation model for training and learning programs (Kirkpatrick, 1994¹). Several questions constituted the foundation for the evaluation:

1. Were participants satisfied with the Working Group overall?
2. Did the meeting meet participant expectations?
3. Do participants feel the Working Group made adequate progress toward its stated goals?
4. Do participants feel they have a good understanding about the work being done by other subgroups within the group?
5. Do participants feel they gained a better understanding of how the work of the various subgroups will tie together to reach the working group's goals?
6. What impact has the working group had on participants' research agendas?
7. Were participants satisfied with communication between group meetings?

Evaluation Procedures

The final instrument was hosted online via the University of Tennessee's online survey host mrInterview. Links to the survey were sent to 13 Working Group participants on June 24, 2010 (organizers Daniel Bolnick and Volker Rudolf were not included in the evaluation). Reminder emails were sent to non-responding participants on July 1 and July 8, 2010. By July 15, 2010, 12 participants had given their feedback, for a response rate of 92%.

Data Analysis

Data from the electronic survey included both forced-response and supply-item questions. All data were downloaded from the online survey host into the statistical software package SPSS for analysis. Quantitative data were analyzed using SPSS, while qualitative data were analyzed in SPSS Text Analysis for Surveys. Qualitative responses were categorized by question and analyzed for trends.

Findings

Participant Satisfaction

Overall Satisfaction

Overall satisfaction with the Working Group was high among respondents, all whom indicated they either agreed or strongly agreed that the Working Group was very productive and met their expectations. Some participant comments:

¹ From Kirkpatrick, D.L. (1994). *Evaluating Training Programs: The Four Levels*. San Francisco, CA: Berrett-Koehler.

“I am very excited by what this group is doing: they are proposing new mathematical models to address the important issue of how individual variance will impact population dynamics”.

“The results of our group will help to resolve the long standing question of how much detail should be included in ecological models as well as point new avenues for empirical research.”

Ninety-two percent of respondents thought the presentations were useful, and all thought that the presenters were very knowledgeable about their presentation topics (Table 2).

Table 2. Satisfaction with various aspects of the Working Group

	<i>n</i>	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I feel the Working Group was very productive.	12	92%	8%	0%	0%	0%
The Working Group met my expectations.	12	92%	8%	0%	0%	0%
The presenters were very knowledgeable about their topics.	12	92%	8%	0%	0%	0%
The presentations were useful.	12	67%	25%	8%	0%	0%
The group discussions were useful.	12	83%	17%	0%	0%	0%

Progress Toward Goals

All respondent felt the format for the second meeting was effective for meeting its goals, and that the group made adequate progress toward reaching its intended goals.

All respondents agreed that participating in the working group meeting increased their understanding of the work being done in by others in the group, and all agreed they better understood how everyone’s work would come together to achieve the goals of the group (Table 3).

Table 3. Understanding of working group structure and function

As a result of participating in this Working Group, I have a better understanding of:	<i>n</i>	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
the work being accomplished by the other subgroups within the Working Group	12	67%	33%	0%	0%	0%
how the work of the various subgroups will tie together for the group's publication(s) and/or product(s)	12	67%	33%	0%	0%	0%

Most Useful Aspects

Most respondents indicated the most beneficial aspect of the working group was the group discussions, where details about the next steps for the group were worked out:

“The meeting was a great opportunity to lay down the model frameworks to be analyzed and define clear tasks for the next few months.”

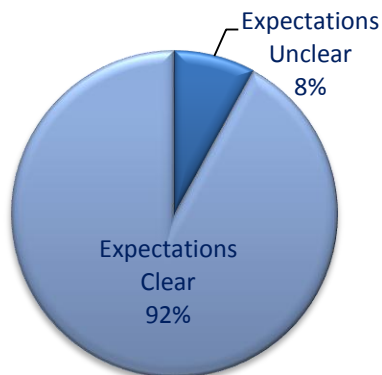
“Getting an overview by the group discussions; then concentrate on specific problems in small subgroups.”

Clarity of Expectations

Most respondents said they felt the expectations for the next working group meeting are clear, in the sense that they were leaving this meeting with a good idea of what they needed to accomplish before the next meeting (Figure 3). One participant who said he/she felt the expectations were unclear, however, had this to say:

“We are supposed to bring results and/or drafts of manuscripts for discussion and comments.”

Figure 3. Clarity of expectations for the next working group meeting (n=12)



Communications

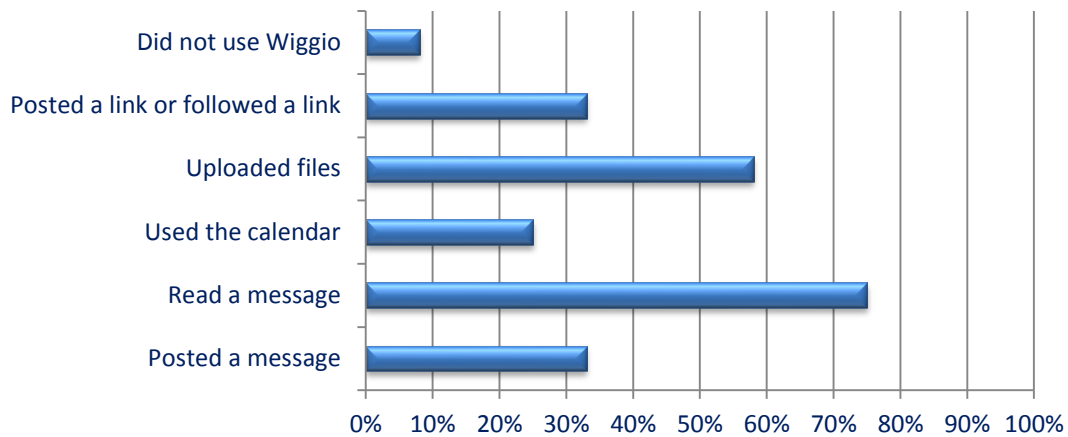
Each research group coordinated through NIMBioS is provided access to an online collaborative group site called "Wiggio." Wiggio's interface includes six basic tools:

- Calendar — A fairly simple shared calendar that allows users to manage group events.
- Folder — Users can upload most file types to Wiggio groups, where they can edit documents and spreadsheets within Wiggio and get automatic version-tracking. Group members also can download the file, change it and re-upload it.
- Meeting — Three types of meetings are available for users: in-person, conference call and chat rooms.
- Poll — Allows users to get a quick consensus from group members. Users ask questions, and get the responses back aggregated in a chart format.

- Messages — Through Wiggio, users can send and receive text, email, and voice messages. Each group has its own email address. When anyone in the group sends mail to that address, it gets redistributed to everyone in the group, according to their delivery preference.
- Links — Users can use the link tool to paste in links so that the group has a shared set of bookmarks, videos and/or resources.

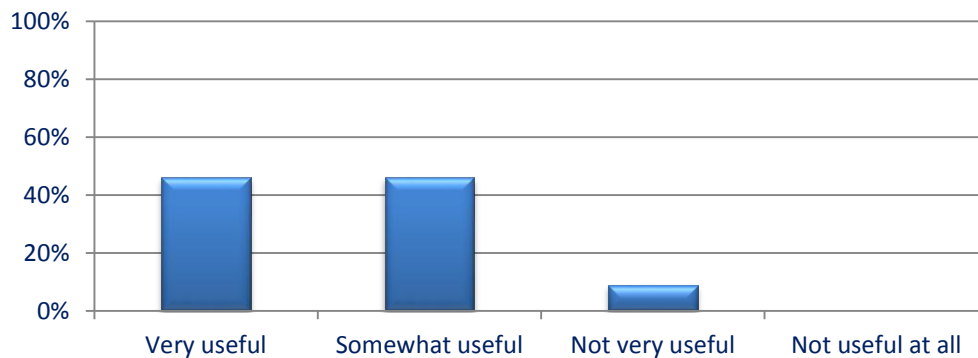
To evaluate its effectiveness, respondents were asked several questions about their use of the Wiggio as a communication tool, as well as their opinions of its usefulness. All but one of the respondents indicated they had used the Wiggio for communicating with their group in some way, with the most common form of communication being uploading a file or reading a message to or from one or more group members (Figure 4). The one participant who did not use the Wiggio indicated he/she could not access it, but gave no further explanation.

Figure 4. Wiggio use (n=12)



Respondents who had used the Wiggio rated its usefulness. All respondents who had used the Wiggio indicated that it was either “Very useful” or “Somewhat useful” for the purpose of communicating and/or collaborating with other members of the working group (Figure 5).

Figure 5. Usefulness of the Wiggio for communicating with research group members (n=12)



Working Group Impact

Participant Research

Nine respondents said that participating in the working had influenced their research agendas. Respondents said that being part of the working group has caused them to think about new ways of looking at problems that they were not previously aware of:

“Very much opened my eyes to the various ways of tackling the problem(s) I’m interested in that i was not previously appreciative of.”

“...It has opened up a whole new area of ecological theory to me and connected me with some excellent colleagues.”

“It has helped crystalize a research problem that was only nebulous in my head before the group.”

Suggestions for Future Working Group Meetings

Respondents were asked several questions soliciting ideas for improving working group meetings with regard to content, format, and communications. Some participants felt there were too many sub-groups within the group, and suggested either having longer meetings to enable members to work on more problems, or narrowing the foci of the group:

“There are about 8 research topics arising from the discussions---maybe too many? I am interested in 3-4 of these problems, but only found time to work on one project.”

“Members of the group were involved in more than one sub-project and it was sometimes not possible to be at the sub-group meetings of two issues at once since they were often being held in parallel. Better scheduling of the sub-group meetings to minimize such conflicts would have been helpful perhaps one more day would have been optimal.”

Regarding group communications, several respondents indicated they would like the subgroups to utilize webinars between in- person meetings to keep everyone up to date on group progress:

“Some subgroups have made plans to meet outside of the main group in order to make progress on projects. Webinar type sessions could also be held so that subgroups can update others on their interim progress.”

Conclusions and Recommendations

Overall, the Working Group was very successful in making progress toward its goals. Working Group respondents were satisfied with the meeting, indicating that it was a productive experience that met their expectations.

All respondents agreed that participating in the working group meeting increased their understanding of the work being done in by others in the group, and all agreed they better understood how everyone’s work would come together to achieve the goals of the group. Most respondents indicated the most

beneficial aspect of the working group was the group discussions, where details about the next steps for the group were worked out. Most respondents said they felt the expectations for the next working group meeting are clear, in the sense that they were leaving this meeting with a good idea of what they needed to accomplish before the next meeting.

All but one of the respondents indicated they had used the Wiggio for communicating with their group in some way, with the most common form of communication being uploading a file or reading a message to or from one or more group members. Almost all respondents who had used the Wiggio indicated that it was either “Very useful” or “Somewhat useful” for the purpose of communicating and/or collaborating with other members of the working group.

Nine respondents said that participating in the working had influenced their research agendas. Respondents said that being part of the working group has caused them to think about new ways of looking at problems that they were not previously aware of.

Some participants felt there were too many sub-groups within the group, and suggested either having longer meetings to enable members to work on more problems, or narrowing the foci of the group. Regarding group communications, several respondents indicated they would like the subgroups to utilize webinars between in- person meetings to keep everyone up to date on group progress.

Based on analysis of participant response data, the recommendations to NIMBioS and/or Working Group organizers are as follows:

- The content and format of the working group appear to be on track for achieving the group’s goals and do not appear to need any significant changes.
- Consider asking participants to report at regular intervals the progress on their tasks via the Wiggio or email.
- Working group organizers should continue to monitor group publications and products and encourage group members to report these to NIMBioS as they become available.

Appendix A

List of Participants

Participants

Last name	First name	Institution
Amarasekare	Priyanga	University of California, Los Angeles
Araujo	Marcio	Florida International University
*Bolnick	Daniel	University of Texas, Austin
Buerger	Reinhard	University of Vienna
DeAngelis	Donald	University of Miami
Jiang	Yuxin	University of Texas, Austin
Levine	Jonathan	University of California, Santa Barbara
Lou	Yuan	Ohio State University, Columbus
Novak	Mark	University of California, Santa Cruz
*Rudolf	Volker	Rice University
Schreiber	Sebastian	University of California, Davis
Svanback	Richard	Uppsala University
Urban	Mark	University of Connecticut
Vasseur	David	Yale University
Wolkowicz	Gail	McMaster University

* Organizer of Working Group

Appendix B

Ecology of Niche Variation Working Group Survey, Meeting Two

Ecology of Niche Variation Working Group Survey

Second Meeting

Thank you for taking a moment to complete this survey. Your responses will be used to help measure the progress of your Working Group, and to improve future Working Groups hosted by the National Institute for Mathematical and Biological Synthesis. Information you supply on the survey about your opinions of the Working Group will be confidential, and results will be reported only in the aggregate.

Please check the appropriate box to indicate your level of agreement with the following statements about the second Working Group meeting: (Strongly agree, Agree, Neutral, Disagree, Strongly disagree)

- I feel the meeting was very productive.
- The meeting met my expectations.
- The presenters were very knowledgeable about their topics.
- The presentations were useful.
- The group discussions were useful.

Please check the appropriate box to indicate your level of agreement with the following statements. As a result of participating in this working group, I have a better understanding of:
(Strongly agree, Agree, Neutral, Disagree, Strongly disagree, No Answer)

- The work being accomplished by the other subgroups within the Working Group
- How the work of the various subgroups will tie together for the working group's publication(s) and/or product(s)

Do you feel the Working Group made adequate progress, for its second meeting, toward reaching its intended goals?

Yes

No

Comments:

How has participating in the Working Group influenced your research agenda thus far?

Do you feel the expectations for the next working group meeting are clear (in the sense that you are leaving this meeting with a good idea of what you need to accomplish before the next meeting)?

Yes

No

Comments:

What, if anything, would you change about the Working Group meeting?

How do you feel about the format of the working group?

This was a very effective format for achieving our goals

This was not a very effective format for achieving our goals

The working group format would have been more effective if:

Please provide any additional comments about your overall experience with the Working Group:

What aspect of this meeting of the Working Group did you feel was the most beneficial in advancing the group's research agenda? (e.g. discussions with the whole group/small groups, opportunity to resolve technical difficulties, or a particular activity)

Do you feel the work being done by the group has the potential to transform the field in the group's subject area?

Yes

No

Not sure

No Answer

Communications

What, if anything, do you feel your Working Group organizers can do to better facilitate communication/collaboration among group members between meetings?

In what ways have you used the Wiggio for communicating/collaborating with other members of your Working Group?

Posted a message to one or more members of the group

Read a message from one or more members of the group

Used the calendar to coordinate research-related activities

Uploaded files to the Wiggio for other group members to read

Posted a link or followed a posted link

I have not used the Wiggio → Why did you not use the Wiggio?

How useful do you feel the Wiggio has been for the purpose of communicating and/or collaborating with other members of your Working Group?

Very useful

Somewhat useful

Not very useful

Not useful at all

Please use this space for any comments you have about the Wiggio:

Appendix C

Open-ended Survey Responses

Open-ended responses, by question and response category

How has participating in the Working Group influenced your research agenda thus far? (n=9)

I am an empirical biologist that does some theory. The group has opened to me the opportunity to learn and discuss relevant questions in ecological theory as well as inform my future empirical and theoretical work.

Many interesting mathematical models arise from the working group---I think that I will work on these models and attract more mathematicians to work on them, while keeping biology goal in mind.

very much opened my eyes to the various ways of tackling the problem(s) I'm interested in that i was not previously appreciative of.

Very much. It has opened up a whole new area of ecological theory to me and connected me with some excellent colleagues.

It has helped crystalize a research problem that was only nebulous in my head before the group

I started a new line of research.

given me new ideas

I am very actively involved in projects with member of the group at the moment.

I've devoted sometime this year to modeling work developed during the previous meeting.

What, if anything, would you change about the Working Group meeting? (n=9)

I wouldn't change anything.

There are about 8 research topics arising from the discussions---maybe too many? I am interested in 3-4 of these problems, but only found time to work on one project.

The hike was a great "working-break", so I wouldn't go without. however, an additional day would have been great so things didn't feel as hurried towards the end

It's fine as is.

none

Nothing about this one.

nothing

Members of the group were involved in more than one sub-project and it was sometimes not possible to be at the sub-group meetings of two issues at once since they were often being held in parallel. Better scheduling of the sub-group meetings to minimize such conflicts would have been helpful Perhaps one more day would have been optimal

nothing

The Working Group format would have been more effective if: (n=0)

Please provide any additional comments about your overall experience with the Working Group: (n=4)

1. 12 month between the first and second meeting is a little too long, 2. It is crucial that each subgroup has a leader, and our sub-group is lucky enough to have Don DeAngelis as our leader. , 3. The NIMBioS staff is very professional and helpful. , 4. Personality of group members is important---this group has a fantastic working relationship, 5. The size of 15 is a little too big for me: I only got opportunity to talk with 6-7 in depth.

It has been excellent!

This has been a very positive experience. I especially enjoy the opportunity to collaborate with the ecologists besides the other mathematicians.

Great.

What aspect of this meeting of the Working Group did you feel was the most beneficial in advancing the group's research agenda? (n=9)

The meeting was a great opportunity to lay down the model frameworks to be analyzed and define clear tasks for the next few months.

whole group meeting is very informative: it gives me a better idea of the whole picture, small group meeting is very productive: it gives me and other members time to discuss things in depth and educate each other, and have time to finish paper

all parts went very well, from the overview and review of the first day, to the subgroup discussions of the 2nd & 3rd, and the new idea discussions sprinkled throughout

Discussions within small groups

subgroup discussion and activity

Getting an overview by the group discussions; then concentrate on specific problems in small subgroups.

both discussions with the whole group and the small groups

Discussion with both the whole group and subgroups were both very important.

Small group work on focused projects.

What, if anything, do you feel your Working Group organizers can do to better facilitate communication/collaboration among group members between meetings? (n=8)

I think the group has communicated very effectively.

Dan is clearly the leader of the group and he did an excellent job in many aspects.

Not much. they're doing it very well already

Communication has worked very well.

They are running the best working group I have ever seen.

communication works very well

Dan has done an amazing job throughout.

Some subgroups have made plans to meet outside of the main group in order to make progress on projects.

Webinar type sessions could also be held so that subgroups can update others on their interim progress.

Please use this space for any comments you have about the Wiggio: (n=3)

As the amount of material increases, it will be nice to organize these materials into sub-sections so that I can find things more easily.

Google docs is far more convenient, faster, and more user friendly. Our subgroup has decided to use Google docs instead of wiggio.

The interface for locating materials can be a bit tricky to figure out - but overall it works reasonably well.

Why did you not use the Wiggio? (n=1)

I do not like filling up peoples inboxes.

Do you feel the Working Group made adequate progress, for its second meeting, toward reaching its intended goals? (n=5)

The group already has results very close to manuscript format and the sub-groups developed and started getting results on several different model frameworks addressing different questions in ecological theory.

Since I am a mathematician, sometimes I cannot fully understand some conversations by biologists, and these participating biological colleagues are very patient and efficient in explaining things to me. I wish that I were braver to ask more "stupid" biology questions.

I was very surprised how productive this series of workshops has become. Dan Bolnick did a great job getting small groups of people hook on to specific problems, as well as in the production of a review paper.

There are many interesting projects being pursued by different subgroups. I am actively involved in several of them.

A number of studies are nearing the point of submission for publication - and the review paper is coming along well. I think the group has made fantastic progress relative to other I've been involved in.

Do you feel the expectations for the next Working Group meeting are clear (in the sense that you are leaving this meeting with a good idea of what you need to accomplish before the next meeting)? (n=1)

We are supposed to bring results and/or drafts of manuscripts for discussion and comments.

Do you feel the work being done by the group has the potential to transform the field in the group's subject area? (n=2)

The results of our group will help to resolve the long standing question of how much detail should be included in ecological models as well as point new avenues for empirical research.

I am very excited by what this group is doing: they are proposing new mathematical models to address the important issue of how individual variance will impact population dynamics.